

SEQUENCE LISTING

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<110> CUNNINGHAM JR., FRANCIS X.
SUN, ZAIREN

<120> GENES OF CAROTENOID BIOSYNTHESIS AND METABOLISM AND
METHODS OF USE THEREOF

<130> 8172-9023

<140> NOT YET ASSIGNED
<141> 1999-06-02

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<170> PatentIn Ver. 2.0

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GGGCTGACCT GGACGCGGCC CTAACACTG ACAAACACGA GGATTGGGA ACGGTGCATC	960
ACATCAACGA AGCGTGAAAG CAGAAGCTGC AGGATGTGAA GACACGTCAT GGGGTGGAAT	1020
TGCGTACTTG GCAGCTTCGT ATCTCCTTT TCTGAGACTG AACCTGCACT CAGGTCCCAC	1080
AAGGTCAGGT AAAATGGCTC GATAAAATGT ACCGTCACTT TTTGTCGCGT ATACTGAAC	1140
CCAAGAGGTC AAAAAAAA AAAAA	1165

<210> 12
 <211> 1135
 <212> DNA
 <213> *Haematococcus pluvialis*

<400> 12
 CTCGGTAGCT GGCCACAATC GCTATTTGGA ACCTGGCCCG GCGGCAGTCC GATGCCGCGA 60
 TGCTTCGTTG GTTGCTCAGA GGCCTCACGC ATATCCCGCG CGTGAACCTCC GCCCAGCAGC 120
 CCAGCTGTGC ACACGCGCGA CTCCAGTTA AGCTCAGGAG CATGCAGCTG CTTTCCGAGG 180
 ACCGCACAGA CCACATGAGG GGTGCAAGCA CCTGGGCAGG CGGGCAGTCG CAGGATGAGC 240
 TGATGCTGAA GGACGAGTGC ATCTTGGTAG ATGTTGAGGA CAACATCACA GGCCATGCCA 300
 GCAAGCTGGA GTGTCACAAG TTCCTACCAC ATCAGCCTGC AGGCCTGCTG CACCGGGCCT 360
 TCTCTGTGTT CCTGTTGAC GATCAGGGC GACTGCTGCT GCAACAGCGT GCACGCTCAA 420
 AAATCACCTT CCCAAGTGTG TGGACGAACA CCTGCTGCAG CCACCCTTA CATGGGCAGA 480
 CCCCAGATGA GGTGGACCAA CTAAGCCAGG TGGCCGACGG AACAGTACCT GGCGCAAAGG 540
 CTGCTGCCAT CCGCAAGTTG GAGCACGAGC TGGGGATACC AGCGCACCAG CTGCCGGCAA 600
 GCGCGTTTCG CTTCCTCACG CGTTGCACT ACTGTGCCGC GGACGTGCAG CCAGCTGCGA 660
 CACAATCAGC GCTCTGGGC GAGCACGAAA TGGACTACAT CTTGTTCATC CGGGCCAACG 720
 TCACCTTGGC GCCCAACCCT GACGAGGTGG ACGAAGTCAG GTACGTGACG CAAGAGGAGC 780
 TCGGGCAGAT GATGCAGCCG GACAACGGGC TTCAATGGTC GCCGTGGTTT CGCATCATCG 840
 CCGCGCGCTT CCTTGAGCGT TGGTGGGCTG ACCTGGACGC GGCCCTAAAC ACTGACAAAC 900
 ACGAGGATTG GGGAACGGTG CATCACATCA ACGAAGCGTG AAGGCAGAAG CTGCAGGATG 960
 TGAAGACACG TCATGGGTG GAATTGCGTA CTTGGCAGCT TCGTATCTCC TTTTCTGAG 1020
 ACTGAACCTG CAGAGCTAGA GTCAATGGTG CATCATATTC ATCGTCTCTC TTTTGTTTA 1080
 GACTAATCTG TAGCTAGAGT CACTGATGAA TCCTTACAA CTTTCAAAAAA AAAAAA 1135

<210> 13
 <211> 960
 <212> DNA
 <213> Tagetes erecta

<400> 13
 CCAAAACAAA CTCAAATCTC CTCCGTCGCT CTTACTCCGC CATGGGTGAC GACTCCGGCA 60
 TGGATGCTGT TCAGCGACGT CTCATGTTG ACGATGAATG CATTGGGTG GATGAGTGTG 120
 ACAATGTGGT GGGACATGAT ACCAAATACA ATTGTCACTT GATGGAGAAG ATTGAAACAG 180
 GTAAAATGCT GCACAGAGCA TTCAGCGTTT TTCTATTCAA TTCAAAATAC GAGTTACTTC 240
 TTCAGCAACG GTCTGCAACC AAGGTGACAT TTCCCTTAGT ATGGACCAAC ACCTGTTGCA 300
 GCCATCCACT CTACAGAGAA TCCGAGCTTG TTCCCGAAAC GCCTGAGAGA ATGCTGCACA 360
 GAGGANNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN 420
 NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN 480

NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	540
NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	600
NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	660
NNNNNNNNNN	NNNNNNNNNN	TCATGTGCAA	AAGGGTACAC	TCACTGAATG	CAATTTGATA	720
TGAAAACCAT	ACACAAGCTG	ATATAGAAAC	ACACCCCTCAA	CCGAAAAGCA	AGCCTAATAA	780
TTCGGGTTGG	GTCGGGTCTA	CCATCAATTG	TTTTTTCTT	TTAACAACTT	TTAATCTCTA	840
TTTGAGCATG	TTGATTCTTG	TCTTTGTGT	GTAAGATT	GGGTTTCGTT	TCAGTTGTAA	900
TAATGAACCA	TTGATGGTTT	GCAATTCAA	GTTCCTATCG	ACATGTAGTG	ATCTAAAAAA	960

<210> 14

<211> 305

<212> PRT

<213> Haematococcus pluvialis

<400> 14

Met	Leu	Arg	Ser	Leu	Leu	Arg	Gly	Leu	Thr	His	Ile	Pro	Arg	Val	Asn
1								5		10					15

Ser	Ala	Gln	Gln	Pro	Ser	Cys	Ala	His	Ala	Arg	Leu	Gln	Phe	Lys	Leu
								20		25				30	

Arg	Ser	Met	Gln	Met	Thr	Leu	Met	Gln	Pro	Ser	Ile	Ser	Ala	Asn	Leu
		35				40								45	

Ser	Arg	Ala	Glu	Asp	Arg	Thr	Asp	His	Met	Arg	Gly	Ala	Ser	Thr	Trp
	50					55					60				

Ala	Gly	Gly	Gln	Ser	Gln	Asp	Glu	Leu	Met	Leu	Lys	Asp	Glu	Cys	Ile
	65					70			75					80	

Leu	Val	Asp	Val	Glu	Asp	Asn	Ile	Thr	Gly	His	Ala	Ser	Lys	Leu	Glu
						85			90					95	

Cys	His	Lys	Phe	Leu	Pro	His	Gln	Pro	Ala	Gly	Leu	Leu	His	Arg	Ala
						100		105						110	

Phe	Ser	Val	Phe	Leu	Phe	Asp	Asp	Gln	Gly	Arg	Leu	Leu	Gln	Gln
	115					120							125	

Arg	Ala	Arg	Ser	Lys	Ile	Thr	Phe	Pro	Ser	Val	Trp	Thr	Asn	Thr	Cys
	130					135					140				

Cys	Ser	His	Pro	Leu	His	Gly	Gln	Thr	Pro	Asp	Glu	Val	Asp	Gln	Leu
	145					150			155					160	

Ser	Gln	Val	Ala	Asp	Gly	Thr	Val	Pro	Gly	Ala	Lys	Ala	Ala	Ile	
						165			170					175	

Arg	Lys	Leu	Glu	His	Glu	Leu	Gly	Ile	Pro	Ala	His	Gln	Leu	Pro	Ala
						180			185					190	

Ser	Ala	Phe	Arg	Phe	Leu	Thr	Arg	Leu	His	Tyr	Cys	Ala	Ala	Asp	Val
						195			200					205	

Gln Pro Ala Ala Thr Gln Ser Ala Leu Trp Gly Glu His Glu Met Asp
 210 215 220
 Tyr Ile Leu Phe Ile Arg Ala Asn Val Thr Leu Ala Pro Asn Pro Asp
 225 230 235 240
 Glu Val Asp Glu Val Arg Tyr Val Thr Gln Glu Glu Leu Arg Gln Met
 245 250 255
 Met Gln Pro Asp Asn Gly Leu Gln Trp Ser Pro Trp Phe Arg Ile Ile
 260 265 270
 Ala Ala Arg Phe Leu Glu Arg Trp Trp Ala Asp Leu Asp Ala Ala Leu
 275 280 285
 Asn Thr Asp Lys His Glu Asp Trp Gly Thr Val His His Ile Asn Glu
 290 295 300
 Ala
 305
 <210> 15
 <211> 293
 <212> PRT
 <213> Haematococcus pluvialis
 <400> 15
 Met Leu Arg Ser Leu Leu Arg Gly Leu Thr His Ile Pro Arg Val Asn
 1 5 10 15
 Ser Ala Gln Gln Pro Ser Cys Ala His Ala Arg Leu Gln Phe Lys Leu
 20 25 30
 Arg Ser Met Gln Leu Leu Ser Glu Asp Arg Thr Asp His Met Arg Gly
 35 40 45
 Ala Ser Thr Trp Ala Gly Gly Gln Ser Gln Asp Glu Leu Met Leu Lys
 50 55 60
 Asp Glu Cys Ile Leu Val Asp Val Glu Asp Asn Ile Thr Gly His Ala
 65 70 75 80
 Ser Lys Leu Glu Cys His Lys Phe Leu Pro His Gln Pro Ala Gly Leu
 85 90 95
 Leu His Arg Ala Phe Ser Val Phe Leu Phe Asp Asp Gln Gly Arg Leu
 100 105 110
 Leu Leu Gln Gln Arg Ala Arg Ser Lys Ile Thr Phe Pro Ser Val Trp
 115 120 125
 Thr Asn Thr Cys Cys Ser His Pro Leu His Gly Gln Thr Pro Asp Glu
 130 135 140
 Val Asp Gln Leu Ser Gln Val Ala Asp Gly Thr Val Pro Gly Ala Lys
 145 150 155 160
 Ala Ala Ala Ile Arg Lys Leu Glu His Glu Leu Gly Ile Pro Ala His
 165 170 175
 Gln Leu Pro Ala Ser Ala Phe Arg Phe Leu Thr Arg Leu His Tyr Cys

180

185

190

Ala Ala Asp Val Gln Pro Ala Ala Thr Gln Ser Ala Leu Trp Gly Glu
 195 200 205

His Glu Met Asp Tyr Ile Leu Phe Ile Arg Ala Asn Val Thr Leu Ala
 210 215 220

Pro Asn Pro Asp Glu Val Asp Glu Val Arg Tyr Val Thr Gln Glu Glu
 225 230 235 240

Leu Arg Gln Met Met Gln Pro Asp Asn Gly Leu Gln Trp Ser Pro Trp
 245 250 255

Phe Arg Ile Ile Ala Ala Arg Phe Leu Glu Arg Trp Trp Ala Asp Leu
 260 265 270

Asp Ala Ala Leu Asn Thr Asp Lys His Glu Asp Trp Gly Thr Val His
 275 280 285

His Ile Asn Glu Ala
 290

<210> 16

<211> 284

<212> PRT

<213> Arabidopsis thaliana

<400> 16

Met Ser Val Ser Ser Leu Phe Asn Leu Pro Leu Ile Arg Leu Arg Ser
 1 5 10 15

Leu Ala Leu Ser Ser Ser Phe Ser Ser Phe Arg Phe Ala His Arg Pro
 20 25 30

Leu Ser Ser Ile Ser Pro Arg Lys Leu Pro Asn Phe Arg Ala Phe Ser
 35 40 45

Gly Thr Ala Met Thr Asp Thr Lys Asp Ala Gly Met Asp Ala Val Gln
 50 55 60

Arg Arg Leu Met Phe Glu Asp Glu Cys Ile Leu Val Asp Glu Thr Asp
 65 70 75 80

Arg Val Val Gly His Val Ser Lys Tyr Asn Cys His Leu Met Glu Asn
 85 90 95

Ile Glu Ala Lys Asn Leu Leu His Arg Ala Phe Ser Val Phe Leu Phe
 100 105 110

Asn Ser Lys Tyr Glu Leu Leu Leu Gln Gln Arg Ser Asn Thr Lys Val
 115 120 125

Thr Phe Pro Leu Val Trp Thr Asn Thr Cys Cys Ser His Pro Leu Tyr
 130 135 140

Arg Glu Ser Glu Leu Ile Gln Asp Asn Ala Leu Gly Val Arg Asn Ala
 145 150 155 160

Ala Gln Arg Lys Leu Leu Asp Glu Leu Gly Ile Val Ala Glu Asp Val
 165 170 175

Pro Val Asp Glu Phe Thr Pro Leu Gly Arg Met Leu Tyr Lys Ala Pro
 180 185 190
 Ser Asp Gly Lys Trp Gly Glu His Glu Leu Asp Tyr Leu Leu Phe Ile
 195 200 205
 Val Arg Asp Val Lys Val Gln Pro Asn Pro Asp Glu Val Ala Glu Ile
 210 215 220
 Lys Tyr Val Ser Arg Glu Glu Leu Lys Glu Leu Val Lys Lys Ala Asp
 225 230 235 240
 Ala Gly Glu Glu Gly Leu Lys Leu Ser Pro Trp Phe Arg Leu Val Val
 245 250 255
 Asp Asn Phe Leu Met Lys Trp Trp Asp His Val Glu Lys Gly Thr Leu
 260 265 270
 Val Glu Ala Ile Asp Met Lys Thr Ile His Lys Leu
 275 280
 <210> 17
 <211> 287
 <212> PRT
 <213> Clarkia breweri
 <400> 17
 Met Ser Ser Ser Met Leu Asn Phe Thr Ala Ser Arg Ile Val Ser Leu
 1 5 10 15
 Pro Leu Leu Ser Ser Pro Pro Ser Arg Val His Leu Pro Leu Cys Phe
 20 25 30
 Phe Ser Pro Ile Ser Leu Thr Gln Arg Phe Ser Ala Lys Leu Thr Phe
 35 40 45
 Ser Ser Gln Ala Thr Thr Met Gly Glu Val Val Asp Ala Gly Met Asp
 50 55 60
 Ala Val Gln Arg Arg Leu Met Phe Glu Asp Glu Cys Ile Leu Val Asp
 65 70 75 80
 Glu Asn Asp Lys Val Val Gly His Glu Ser Lys Tyr Asn Cys His Leu
 85 90 95
 Met Glu Lys Ile Glu Ser Glu Asn Leu Leu His Arg Ala Phe Ser Val
 100 105 110
 Phe Leu Phe Asn Ser Lys Tyr Glu Leu Leu Gln Gln Arg Ser Ala
 115 120 125
 Thr Lys Val Thr Phe Pro Leu Val Trp Thr Asn Thr Cys Cys Ser His
 130 135 140
 Pro Leu Tyr Arg Glu Ser Glu Leu Ile Asp Glu Asn Cys Leu Gly Val
 145 150 155 160
 Arg Asn Ala Ala Gln Arg Lys Leu Leu Asp Glu Leu Gly Ile Pro Ala
 165 170 175
 Glu Asp Leu Pro Val Asp Gln Phe Ile Pro Leu Ser Arg Ile Leu Tyr

180

185

190

Lys Ala Pro Ser Asp Gly Lys Trp Gly Glu His Glu Leu Asp Tyr Leu
 195 200 205

Leu Phe Ile Ile Arg Asp Val Asn Leu Asp Pro Asn Pro Asp Glu Val
 210 215 220

Ala Glu Val Lys Tyr Met Asn Arg Asp Asp Leu Lys Glu Leu Leu Arg
 225 230 235 240

Lys Ala Asp Ala Glu Glu Gly Val Lys Leu Ser Pro Trp Phe Arg
 245 250 255

Leu Val Val Asp Asn Phe Leu Phe Lys Trp Trp Asp His Val Glu Lys
 260 265 270

Gly Ser Leu Lys Asp Ala Ala Asp Met Lys Thr Ile His Lys Leu
 275 280 285

<210> 18

<211> 261

<212> PRT

<213> Arabidopsis thaliana

<400> 18

Thr Gly Pro Pro Pro Arg Phe Phe Pro Ile Arg Ser Pro Val Pro Arg
 1 5 10 15

Thr Gln Leu Phe Val Arg Ala Phe Ser Ala Val Thr Met Thr Asp Ser
 20 25 30

Asn Asp Ala Gly Met Asp Ala Val Gln Arg Arg Leu Met Phe Glu Asp
 35 40 45

Glu Cys Ile Leu Val Asp Glu Asn Asn Arg Val Val Gly His Asp Thr
 50 55 60

Lys Tyr Asn Cys His Leu Met Glu Lys Ile Glu Ala Glu Asn Leu Leu
 65 70 75 80

His Arg Ala Phe Ser Val Phe Leu Phe Asn Ser Lys Tyr Glu Leu Leu
 85 90 95

Leu Gln Gln Arg Ser Lys Thr Lys Val Thr Phe Pro Leu Val Trp Thr
 100 105 110

Asn Thr Cys Cys Ser His Pro Leu Tyr Arg Glu Ser Glu Leu Ile Glu
 115 120 125

Glu Asn Val Leu Gly Val Arg Asn Ala Ala Gln Arg Lys Leu Phe Asp
 130 135 140

Glu Leu Gly Ile Val Ala Glu Asp Val Pro Val Asp Glu Phe Thr Pro
 145 150 155 160

Leu Gly Arg Met Leu Tyr Lys Ala Pro Ser Asp Gly Lys Trp Gly Glu
 165 170 175

His Glu Val Asp Tyr Leu Leu Phe Ile Val Arg Asp Val Lys Leu Gln
 180 185 190

Pro Asn Pro Asp Glu Val Ala Glu Ile Lys Tyr Val Ser Arg Glu Glu
 195 200 205
 Leu Lys Glu Leu Val Lys Lys Ala Asp Ala Gly Asp Glu Ala Val Lys
 210 215 220
 Leu Ser Pro Trp Phe Arg Leu Val Val Asp Asn Phe Leu Met Lys Trp
 225 230 235 240
 Trp Asp His Val Glu Lys Gly Thr Ile Thr Glu Ala Ala Asp Met Lys
 245 250 255
 Thr Ile His Lys Leu
 260

<210> 19
 <211> 288
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 19
 Met Thr Ala Asp Asn Asn Ser Met Pro His Gly Ala Val Ser Ser Tyr
 1 5 10 15
 Ala Lys Leu Val Gln Asn Gln Thr Pro Glu Asp Ile Leu Glu Glu Phe
 25 30
 Pro Glu Ile Ile Pro Leu Gln Gln Arg Pro Asn Thr Arg Ser Ser Glu
 35 40 45
 Thr Ser Asn Asp Glu Ser Gly Glu Thr Cys Phe Ser Gly His Asp Glu
 50 55 60
 Glu Gln Ile Lys Leu Met Asn Glu Asn Cys Ile Val Leu Asp Trp Asp
 65 70 75 80
 Asp Asn Ala Ile Gly Ala Gly Thr Lys Lys Val Cys His Leu Met Glu
 85 90 95
 Asn Ile Glu Lys Gly Leu Leu His Arg Ala Phe Ser Val Phe Ile Phe
 100 105 110
 Asn Glu Gln Gly Glu Leu Leu Leu Gln Gln Arg Ala Thr Glu Lys Ile
 115 120 125
 Thr Phe Pro Asp Leu Trp Thr Asn Thr Cys Cys Ser His Pro Leu Cys
 130 135 140
 Ile Asp Asp Glu Leu Gly Leu Lys Gly Lys Leu Asp Asp Lys Ile Lys
 145 150 155 160
 Gly Ala Ile Thr Ala Ala Val Arg Lys Leu Asp His Glu Leu Gly Ile
 165 170 175
 Pro Glu Asp Glu Thr Lys Thr Arg Gly Lys Phe His Phe Leu Asn Arg
 180 185 190
 Ile His Tyr Met Ala Pro Ser Asn Glu Pro Trp Gly Glu His Glu Ile
 195 200 205
 Asp Tyr Ile Leu Phe Tyr Lys Ile Asn Ala Lys Glu Asn Leu Thr Val

210

215

220

Asn Pro Asn Val Asn Glu Val Arg Asp Phe Lys Trp Val Ser Pro Asn
225 230 235 240

Asp Leu Lys Thr Met Phe Ala Asp Pro Ser Tyr Lys Phe Thr Pro Trp
245 250 255

Phe Lys Ile Ile Cys Glu Asn Tyr Leu Phe Asn Trp Trp Glu Gln Leu
260 265 270

Asp Asp Leu Ser Glu Val Glu Asn Asp Arg Gln Ile His Arg Met Leu
275 280 285

<210> 20

<211> 456

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Consensus
sequence of four plant B-cyclases

<400> 20

Met Asp Thr Leu Leu Lys Thr Pro Asn Leu Glu Phe Leu Pro His Gly
1 5 10 15

Phe Val Lys Ser Phe Ser Lys Phe Gly Lys Cys Glu Gly Val Cys Val
20 25 30

Lys Ser Ser Ala Leu Leu Glu Leu Val Pro Glu Thr Lys Lys Glu Asn
35 40 45

Leu Asp Phe Glu Leu Pro Met Tyr Asp Pro Ser Lys Gly Val Val Asp
50 55 60

Leu Ala Val Val Gly Gly Pro Ala Gly Leu Ala Val Ala Gln Gln
65 70 75 80

Val Ser Glu Ala Gly Leu Ser Val Cys Ser Ile Asp Pro Pro Lys Leu
85 90 95

Ile Trp Pro Asn Asn Tyr Gly Val Trp Val Asp Glu Phe Glu Ala Met
100 105 110

Asp Leu Leu Asp Cys Leu Asp Ala Thr Trp Ser Gly Ala Val Tyr Ile
115 120 125

Asp Asp Thr Lys Asp Leu Arg Pro Tyr Gly Arg Val Asn Arg Lys Gln
130 135 140

Leu Lys Ser Lys Met Met Gln Lys Cys Ile Asn Gly Val Lys Phe His
145 150 155 160

Gln Ala Lys Val Ile Lys Val Ile His Glu Glu Lys Ser Met Leu Ile
165 170 175

Cys Asn Asp Gly Thr Ile Gln Ala Thr Val Val Leu Asp Ala Thr Gly
180 185 190

Phe Ser Arg Leu Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr Gln

195

200

205

Val Ala Tyr Gly Ile Leu Ala Glu Val Glu Glu His Pro Phe Asp Lys
 210 215 220

Met Val Phe Met Asp Trp Arg Asp Ser His Leu Asn Asn Glu Leu Lys
 225 230 235 240

Glu Arg Asn Ser Ile Pro Thr Phe Leu Tyr Ala Met Pro Phe Ser Ser
 245 250 255

Asn Arg Ile Phe Leu Glu Glu Thr Ser Leu Val Ala Arg Pro Gly Leu
 260 265 270

Arg Met Asp Asp Ile Gln Glu Arg Met Val Ala Arg Leu His Leu Gly
 275 280 285

Ile Lys Val Lys Ser Ile Glu Glu Asp Glu His Cys Val Ile Pro Met
 290 295 300

Gly Gly Pro Leu Pro Val Leu Pro Gln Arg Val Val Gly Ile Gly Gly
 305 310 315 320

Thr Ala Gly Met Val His Pro Ser Thr Gly Tyr Met Val Ala Arg Thr
 325 330 335

Leu Ala Ala Ala Pro Val Val Ala Asn Ala Ile Ile Tyr Leu Gly Ser
 340 345 350

Glu Ser Ser Gly Glu Leu Ser Ala Glu Val Trp Lys Asp Leu Trp Pro
 355 360 365

Ile Glu Arg Arg Arg Gln Arg Glu Phe Phe Cys Phe Gly Met Asp Ile
 370 375 380

Leu Leu Lys Leu Asp Leu Pro Ala Thr Arg Arg Phe Phe Asp Ala Phe
 385 390 395 400

Phe Asp Leu Glu Pro Arg Tyr Trp His Gly Phe Leu Ser Ser Arg Leu
 405 410 415

Phe Leu Pro Glu Leu Ile Val Phe Gly Leu Ser Leu Phe Ser His Ala
 420 425 430

Ser Asn Thr Ser Arg Glu Ile Met Thr Lys Gly Thr Pro Leu Val Met
 435 440 445

Ile Asn Asn Leu Leu Gln Asp Glu
 450 455

<210> 21

<211> 524

<212> PRT

<213> *Arabidopsis thaliana*

<400> 21

Met Glu Cys Val Gly Ala Arg Asn Phe Ala Ala Met Ala Val Ser Thr
 1 5 10 15

Phe Pro Ser Trp Ser Cys Arg Arg Lys Phe Pro Val Val Lys Arg Tyr
 20 25 30

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Ser Tyr Arg Asn Ile Arg Phe Gly Leu Cys Ser Val Arg Ala Ser Gly
 35 40 45
 Gly Gly Ser Ser Gly Ser Glu Ser Cys Val Ala Val Arg Glu Asp Phe
 50 55 60
 Ala Asp Glu Glu Asp Phe Val Lys Ala Gly Gly Ser Glu Ile Leu Phe
 65 70 75 80
 Val Gln Met Gln Gln Asn Lys Asp Met Asp Glu Gln Ser Lys Leu Val
 85 90 95
 Asp Lys Leu Pro Pro Ile Ser Ile Gly Asp Gly Ala Leu Asp His Val
 100 105 110
 Val Ile Gly Cys Gly Pro Ala Gly Leu Ala Ala Glu Ser Ala
 115 120 125
 Lys Leu Gly Leu Lys Val Gly Leu Ile Gly Pro Asp Leu Pro Phe Thr
 130 135 140
 Asn Asn Tyr Gly Val Trp Glu Asp Glu Phe Asn Asp Leu Gly Leu Gln
 145 150 155 160
 Lys Cys Ile Glu His Val Trp Arg Glu Thr Ile Val Tyr Leu Asp Asp
 165 170 175
 Asp Lys Pro Ile Thr Ile Gly Arg Ala Tyr Gly Arg Val Ser Arg Arg
 180 185 190
 Leu Leu His Glu Glu Leu Leu Arg Arg Cys Val Glu Ser Gly Val Ser
 195 200 205
 Tyr Leu Ser Ser Lys Val Asp Ser Ile Thr Glu Ala Ser Asp Gly Leu
 210 215 220
 Arg Leu Val Ala Cys Asp Asp Asn Asn Val Ile Pro Cys Arg Leu Ala
 225 230 235 240
 Thr Val Ala Ser Gly Ala Ala Ser Gly Lys Leu Leu Gln Tyr Glu Val
 245 250 255
 Gly Gly Pro Arg Val Cys Val Gln Thr Ala Tyr Gly Val Glu Val Glu
 260 265 270
 Val Glu Asn Ser Pro Tyr Asp Pro Asp Gln Met Val Phe Met Asp Tyr
 275 280 285
 Arg Asp Tyr Thr Asn Glu Lys Val Arg Ser Leu Glu Ala Glu Tyr Pro
 290 295 300
 Thr Phe Leu Tyr Ala Met Pro Met Thr Lys Ser Arg Leu Phe Phe Glu
 305 310 315 320
 Glu Thr Cys Leu Ala Ser Lys Asp Val Met Pro Phe Asp Leu Leu Lys
 325 330 335
 Thr Lys Leu Met Leu Arg Leu Asp Thr Leu Gly Ile Arg Ile Leu Lys
 340 345 350
 Thr Tyr Glu Glu Trp Ser Tyr Ile Pro Val Gly Gly Ser Leu Pro

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355	360	365
Asn Thr Glu Gln Lys Asn Leu Ala Phe Gly Ala Ala Ala Ser Met Val		
370	375	380
His Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu Ser Glu Ala Pro		
385	390	395
Lys Tyr Ala Ser Val Ile Ala Glu Ile Leu Arg Glu Glu Thr Thr Lys		
405	410	415
Gln Ile Asn Ser Asn Ile Ser Arg Gln Ala Trp Asp Thr Leu Trp Pro		
420	425	430
Pro Glu Arg Lys Arg Gln Arg Ala Phe Phe Leu Phe Gly Leu Ala Leu		
435	440	445
Ile Val Gln Phe Asp Thr Glu Gly Ile Arg Ser Phe Phe Arg Thr Phe		
450	455	460
Phe Arg Leu Pro Lys Trp Met Trp Gln Gly Phe Leu Gly Ser Thr Leu		
465	470	475
Thr Ser Gly Asp Leu Val Leu Phe Ala Leu Tyr Met Phe Val Ile Ser		
485	490	495
Pro Asn Asn Leu Arg Lys Gly Leu Ile Asn His Leu Ile Ser Asp Pro		
500	505	510
Thr Gly Ala Thr Met Ile Lys Thr Tyr Leu Lys Val		
515	520	

<210> 22
 <211> 1898
 <212> DNA
 <213> Adonis palaestina

<400> 22		
AAAGGAGTGT TCTATTAATG TTACTGTCGC ATTCTTGCAA CACTTATATT CAAACTCCAT		60
TTTCTTCTTT TCTCTTCAAA ACAACAACT AATGTGAGCA GAGTATCTGG CTATGGAAC		120
ACTTGGTGTGTT CGCAACCTCA TCTCTTCTTG CCCTGTGTGG ACTTTGGAA CAAGAAACCT		180
TAGTAGTTCA AAACTAGCTT ATAACATACA TCGATATGGT TCTTCTTGTGTA GAGTAGATT		240
TCAAGTGAGA GCTGATGGTG GAAGCGGGAG TAGAAGTTCT GTTGCTTATA AAGAGGGTTT		300
TGTGGATGAA GAGGATTTA TCAAAGCTGG TGGTTCTGAG CTTTTGTTTG TCCAAATGCA		360
GCAAACAAAG TCTATGGAGA AACAGGCCAA GCTCGCCGAT AAGTTGCCAC CAATACCTTT		420
TGGAGAATCC GTGATGGACT TGGTTGTAAT AGGTTGTGGA CCTGCTGGTC TTTCACTGGC		480
TGCAGAAGCT GCTAAGCTAG GGTTGAAAGT TGGCCTTATT GGTCTGATC TTCCCTTTAC		540
AAATAATTAT GGTGTGTGGG AAGACGAGTT CAAAGATCTT GGACTTGAAC GTTGTATCGA		600
GCATGCTTGG AAGGACACCA TCGTATATCT TGATAATGAT GCTCCTGTCC TTATTGGTCG		660
TGCATATGGA CGAGTTAGTC GACATTGCT ACATGAGGAG TTGCTGAAAA GGTGTGTGGA		720

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GTCAGGTGTA	TCATATCTTG	ATTCTAAAGT	GGAAAGGATC	ACTGAAGCTG	GTGATGGCCA	780	
TAGCCTTGT	ATTTGTGAAA	ATGAGATCTT	TATCCCTTGC	AGGCTTGCTA	CTGTTGCATC	840	
TGGAGCAGCT	TCAGGGAAAC	TTTGGAGTA	TGAAGTAGGT	GGCCCTCGTG	TTTGTGTCCA	900	
AACCGCTTAT	GGGGTGGAGG	TTGAGGTGGA	GAACAATCCA	TACGATCCCA	ACTTAATGGT	960	
ATTCA	TGGAC	TACAGAGACT	ATATGCAACA	GAAATTACAG	TGCTCGGAAG	AAGAATATCC	1020
AAC	TTTCTC	TATGTCATGC	CCATGTCGCC	AAACAAGACTT	TTTTTGAGG	AAACCTGTT	1080
GGC	CTCAAAA	GATGCCATGC	CATTGATCT	ACTGAAGAGA	AAACTGATGT	CACGATTGAA	1140
GAC	TCTGGGT	ATCCAAGTTA	CAAAAGTTA	TGAAGAGGAA	TGGTCATATA	TTCTGTTGG	1200
TGG	TTCTTTA	CCAAACACAG	AGCAAAAGAA	CCTAGCATT	GGTGCTGCAG	CAAGCATGGT	1260
GCAT	CCAGCA	ACAGGCTATT	CGGTTGTACG	GTCACTGTCA	GAAGCTCCAA	AATATGCTTC	1320
TGTA	ATTGCA	AAGATTG	AGCAAGATAA	CTCTGCGTAT	GTGGTTCTG	GACAAAGTAG	1380
TGCA	GAGTAAAC	ATTC	AACTGAG	CAGTCTTG	CCAAAGGAGC	GAAAACGTCA	1440
AAGAGC	ATTC	TTTCTTTG	GATTAGAGCT	TATTGTGCAG	CTAGATATTG	AAGCAACCAG	1500
AA	CATTCTT	AGAACCTT	TCCGCTTG	AACTGGATG	TGGTGGGTT	TCCTGGGTC	1560
TTC	ACTATCA	TCTTCGATC	TCGTCTTGT	TTCCATGTAC	ATGTTGTT	TGGCGCCAAA	1620
CAG	CATGAGG	ATGTC	ACTTG	TGAGACATT	GCTTCAGAT	CCTCTGGTG	1680
AAGAGC	TTAC	CTCGAAAGGT	AGTCTCATCT	ATTATTAAAC	TCTAGTGT	TACCAAATAA	1740
ATGAGG	ATC	TTCGAATGT	TATATGATCA	TCTCTATGTA	TATCCTGTAC	TCTAATCTCA	1800
TAAAGTAA	AT	GCCGGTTG	ATATTGTTGT	GTCAAACCGG	CCAATGATAT	AAAGTAAATT	1860
TATTGATACA	AAAGTAGTTT	TTTCCTTAA	AAAAAAA			1898	

<210> 23

<211> 529

<212> PRT

<213> Adonis palaestina

<400> 23

Met	Glu	Leu	Leu	Gly	Val	Arg	Asn	Leu	Ile	Ser	Ser	Cys	Pro	Val	Trp
1					5					10				15	

Thr	Phe	Gly	Thr	Arg	Asn	Leu	Ser	Ser	Ser	Lys	Leu	Ala	Tyr	Asn	Ile
									25				30		

His	Arg	Tyr	Gly	Ser	Ser	Cys	Arg	Val	Asp	Phe	Gln	Val	Arg	Ala	Asp
									40				45		

Gly	Gly	Ser	Gly	Ser	Arg	Ser	Ser	Val	Ala	Tyr	Lys	Glu	Gly	Phe	Val
									55		60				

Asp	Glu	Glu	Asp	Phe	Ile	Lys	Ala	Gly	Gly	Ser	Glu	Leu	Leu	Phe	Val
					70					75				80	

Gln Met Gln Gln Thr Lys Ser Met Glu Lys Gln Ala Lys Leu Ala Asp
 85 90 95
 Lys Leu Pro Pro Ile Pro Phe Gly Glu Ser Val Met Asp Leu Val Val
 100 105 110
 Ile Gly Cys Gly Pro Ala Gly Leu Ser Leu Ala Ala Glu Ala Ala Lys
 115 120 125
 Leu Gly Leu Lys Val Gly Leu Ile Gly Pro Asp Leu Pro Phe Thr Asn
 130 135 140
 Asn Tyr Gly Val Trp Glu Asp Glu Phe Lys Asp Leu Gly Leu Glu Arg
 145 150 155 160
 Cys Ile Glu His Ala Trp Lys Asp Thr Ile Val Tyr Leu Asp Asn Asp
 165 170 175
 Ala Pro Val Leu Ile Gly Arg Ala Tyr Gly Arg Val Ser Arg His Leu
 180 185 190
 Leu His Glu Glu Leu Leu Lys Arg Cys Val Glu Ser Gly Val Ser Tyr
 195 200 205
 Leu Asp Ser Lys Val Glu Arg Ile Thr Glu Ala Gly Asp Gly His Ser
 210 215 220
 Leu Val Val Cys Glu Asn Glu Ile Phe Ile Pro Cys Arg Leu Ala Thr
 225 230 235 240
 Val Ala Ser Gly Ala Ala Ser Gly Lys Leu Leu Glu Tyr Glu Val Gly
 245 250 255
 Gly Pro Arg Val Cys Val Gln Thr Ala Tyr Gly Val Glu Val Glu Val
 260 265 270
 Glu Asn Asn Pro Tyr Asp Pro Asn Leu Met Val Phe Met Asp Tyr Arg
 275 280 285
 Asp Tyr Met Gln Gln Lys Leu Gln Cys Ser Glu Glu Glu Tyr Pro Thr
 290 295 300
 Phe Leu Tyr Val Met Pro Met Ser Pro Thr Arg Leu Phe Phe Glu Glu
 305 310 315 320
 Thr Cys Leu Ala Ser Lys Asp Ala Met Pro Phe Asp Leu Leu Lys Arg
 325 330 335
 Lys Leu Met Ser Arg Leu Lys Thr Leu Gly Ile Gln Val Thr Lys Val
 340 345 350
 Tyr Glu Glu Glu Trp Ser Tyr Ile Pro Val Gly Gly Ser Leu Pro Asn
 355 360 365
 Thr Glu Gln Lys Asn Leu Ala Phe Gly Ala Ala Ala Ser Met Val His
 370 375 380
 Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu Ser Glu Ala Pro Lys
 385 390 395 400
 Tyr Ala Ser Val Ile Ala Lys Ile Leu Lys Gln Asp Asn Ser Ala Tyr

405

410

415

Val Val Ser Gly Gln Ser Ser Ala Val Asn Ile Ser Met Gln Ala Trp
 420 425 430

Ser Ser Leu Trp Pro Lys Glu Arg Lys Arg Gln Arg Ala Phe Phe Leu
 435 440 445

Phe Gly Leu Glu Leu Ile Val Gln Leu Asp Ile Glu Ala Thr Arg Thr
 450 455 460

Phe Phe Arg Thr Phe Phe Arg Leu Pro Thr Trp Met Trp Trp Gly Phe
 465 470 475 480

Leu Gly Ser Ser Leu Ser Ser Phe Asp Leu Val Leu Phe Ser Met Tyr
 485 490 495

Met Phe Val Leu Ala Pro Asn Ser Met Arg Met Ser Leu Val Arg His
 500 505 510

Leu Leu Ser Asp Pro Ser Gly Ala Val Met Val Arg Ala Tyr Leu Glu
 515 520 525

Arg

<210> 24
 <211> 1370
 <212> DNA
 <213> Potato

<400> 24
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 GATACCATTG TATATCTTGA TGATGATGAT CCTATTCTTA TTGGCCGTGC CTATGGAAGA 120
 GTTAGTCGCC ATTTACTGCA CGAGGAGTTA CTCAAAAGGT GTGTGGAGGC AGGTGTTTG 180
 TATCTAAACT CGAAAGTGGA TAGGATTGTT GAGGCCACAA ATGGCCACAG TCTTGTAGAG 240
 TCGCAGGGTG ATGTTGTGAT TCCCTGCAGG TTTGTGACTG TTGCATCGGG AGCAGCCTCG 300
 GGGAAATTCT TGCAGTATGA GTTGGGAGGT CCTAGAGTTT CTGTTCAAAC AGCTTATGGA 360
 GTGGAAGTTG AGGTCGATAA CAATCCATT GACCCGAGCC TGATGGTTT CATGGATTAT 420
 AGAGACTATG TCAGACACGA CGCTCAATCT TTAGAAGCTA AATATCCAAC ATTTCTCTAT 480
 GCCATGCCCA TGTCTCCAAC ACGAGTCTTT TTGAGGAAA CTTGTTGGC TTCAAAAGAT 540
 GCAATGCCAT TCGATCTGTT AAAGAAAAAA TTGATGTTAC GATTGAACAC CCTCGGTGTA 600
 AGAATTAAAG AAATTATGA GGAGGAATGG TCTTACATAC CAGTTGGAGG ATCTTGCCA 660
 AATACAGAAC AAAAACACT TGCATTTGGT GCTGCTGCTA GCATGGTCA TCCAGCCACA 720
 GGTTATTCAG TCGTCAGATC ACTGTCTGAA GCTCCAAAT GCGCCTCGT GCTTGCAAAT 780
 ATATTACGAC AAAATCATAG CAAGAATATG CTTACTAGTT CAAGTACCCC GAGTATTCA 840
 ACTCAAGCTT GGAACACTCT TTGGCCACAA GAACGAAAAC GACAAAGATC GTTTTCCTA 900

TTTGGACTGG CTCTGATATT GCAGCTGGAT ATTGAGGGGA TAAGGTCATT TTTCCGCGCG	960
TTCTTCCGTG TGCCAAAATG GATGTGGCAG GGATTCTTG GTTCAAGTCT TTCTTAGCAG	1020
ACCTCATGTT ATTTGCCTTC TACATGTTA TTATTGCACC AAATGACATG AGAAGAGGCT	1080
TAATCAGACA TCTTTATCT GATCCTACTG GTGCAACATT GATAAGAACT TATCTTACAT	1140
TTTAGAGTAA ATTCCTCCTA CAATAGTTGT TGAAAGAGGC CTCATTACTT CAGATTCTA	1200
ACAGAAATCG CGGTCTCTCG AGGCCTTGT AATAACATT TCACTAGGTT AATATTGCTT	1260
GAATAAGTTG CACAGTTCA GTTTTGTAT CTGCTTCTTT TTTGTCCAAG ATCATGTATT	1320
GACCAATTAA TATACATTGC CAGTATATAT AAATTTATAA AAAAAAAA	1370

<210> 25

<211> 377

<212> PRT

<213> Potato

<400> 25

Asp Glu Phe Lys Asp Leu Gly Leu Gln Ala Cys Ile Glu His Val Trp			
1	5	10	15

Arg Asp Thr Ile Val Tyr Leu Asp Asp Asp Asp Pro Ile Leu Ile Gly			
20	25	30	

Arg Ala Tyr Gly Arg Val Ser Arg His Leu Leu His Glu Glu Leu Leu			
35	40	45	

Lys Arg Cys Val Glu Ala Gly Val Leu Tyr Leu Asn Ser Lys Val Asp			
50	55	60	

Arg Ile Val Glu Ala Thr Asn Gly His Ser Leu Val Glu Cys Glu Gly			
65	70	75	80

Asp Val Val Ile Pro Cys Arg Phe Val Thr Val Ala Ser Gly Ala Ala			
85	90	95	

Ser Gly Lys Phe Leu Gln Tyr Glu Leu Gly Gly Pro Arg Val Ser Val			
100	105	110	

Gln Thr Ala Tyr Gly Val Glu Val Glu Val Asp Asn Asn Pro Phe Asp			
115	120	125	

Pro Ser Leu Met Val Phe Met Asp Tyr Arg Asp Tyr Val Arg His Asp			
130	135	140	

Ala Gln Ser Leu Glu Ala Lys Tyr Pro Thr Phe Leu Tyr Ala Met Pro			
145	150	155	160

Met Ser Pro Thr Arg Val Phe Phe Glu Glu Thr Cys Leu Ala Ser Lys			
165	170	175	

Asp Ala Met Pro Phe Asp Leu Leu Lys Lys Lys Leu Met Leu Arg Leu			
180	185	190	

Asn Thr Leu Gly Val Arg Ile Lys Glu Ile Tyr Glu Glu Glu Trp Ser			
195	200	205	

Tyr Ile Pro Val Gly Gly Ser Leu Pro Asn Thr Glu Gln Lys Thr Leu
 210 215 220
 Ala Phe Gly Ala Ala Ala Ser Met Val His Pro Ala Thr Gly Tyr Ser
 225 230 235 240
 Val Val Arg Ser Leu Ser Glu Ala Pro Lys Cys Ala Phe Val Leu Ala
 245 250 255
 Asn Ile Leu Arg Gln Asn His Ser Lys Asn Met Leu Thr Ser Ser Ser
 260 265 270
 Thr Pro Ser Ile Ser Thr Gln Ala Trp Asn Thr Leu Trp Pro Gln Glu
 275 280 285
 Arg Lys Arg Gln Arg Ser Phe Phe Leu Phe Gly Leu Ala Leu Ile Leu
 290 295 300
 Gln Leu Asp Ile Glu Gly Ile Arg Ser Phe Phe Arg Ala Phe Phe Arg
 305 310 315 320
 Val Pro Lys Met Met Trp Gly Phe Leu Gly Ser Ser Leu Ser Xaa Ala
 325 330 335
 Asp Leu Met Leu Phe Ala Phe Tyr Met Phe Ile Ile Ala Pro Asn Asp
 340 345 350
 Met Arg Arg Gly Leu Ile Arg His Leu Leu Ser Asp Pro Thr Gly Ala
 355 360 365
 Thr Leu Ile Arg Thr Tyr Leu Thr Phe
 370 375
 <210> 26
 <211> 533
 <212> PRT
 <213> Chimeric lettuce/potato
 <400> 26
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 Thr Cys Pro Arg Phe Thr Asp Cys Asn Ile Arg His Lys Phe Ser Leu
 20 25 30
 Leu Lys Gly Arg Arg Phe Thr Asn Leu Ser Ala Ser Ser Ser Leu Arg
 35 40 45
 Gln Ile Lys Cys Ser Ala Lys Ser Asp Arg Cys Val Val Asp Lys Gln
 50 55 60
 Gly Ile Ser Val Ala Asp Glu Glu Asp Tyr Val Lys Ala Gly Gly Ser
 65 70 75 80
 Glu Leu Phe Phe Val Gln Met Gln Arg Thr Lys Ser Met Glu Ser Gln
 85 90 95
 Ser Lys Leu Ser Glu Lys Leu Ala Gln Ile Pro Ile Gly Asn Cys Ile
 100 105 110
 Leu Asp Leu Val Val Ile Gly Cys Gly Pro Ala Gly Leu Ala Leu Ala

115	120	125
Ala Glu Ser Ala Lys Leu Gly Leu Asn Val Gly Leu Ile Gly Pro Asp		
130	135	140
Leu Pro Phe Thr Asn Asn Tyr Gly Val Trp Gln Asp Glu Phe Ile Gly		
145	150	155
Leu Gly Leu Glu Gly Cys Ile Glu His Ser Trp Lys Asp Thr Leu Val		
165	170	175
Tyr Leu Asp Asp Ala Asp Pro Ile Arg Ile Gly Arg Ala Tyr Gly Arg		
180	185	190
Val His Arg Asp Leu Leu His Glu Glu Leu Leu Arg Arg Cys Val Glu		
195	200	205
Ser Gly Val Ser Tyr Leu Ser Ser Lys Val Glu Arg Ile Thr Glu Ala		
210	215	220
Pro Asn Gly Tyr Ser Leu Ile Glu Cys Glu Gly Asn Ile Thr Ile Pro		
225	230	235
240		
Cys Arg Leu Ala Thr Val Ala Ser Gly Ala Ala Ser Gly Lys Phe Leu		
245	250	255
Glu Tyr Glu Leu Gly Gly Pro Arg Val Ser Val Gln Thr Ala Tyr Gly		
260	265	270
Val Glu Val Glu Val Asp Asn Asn Pro Phe Asp Pro Ser Leu Met Val		
275	280	285
Phe Met Asp Tyr Arg Asp Tyr Val Arg His Asp Ala Gln Ser Leu Glu		
290	295	300
Ala Lys Tyr Pro Thr Phe Leu Tyr Ala Met Pro Met Ser Pro Thr Arg		
305	310	315
320		
Val Phe Phe Glu Glu Thr Cys Leu Ala Ser Lys Asp Ala Met Pro Phe		
325	330	335
Asp Leu Leu Lys Lys Leu Met Leu Arg Leu Asn Thr Leu Gly Val		
340	345	350
Arg Ile Lys Glu Ile Tyr Glu Glu Glu Trp Ser Tyr Ile Pro Val Gly		
355	360	365
Gly Ser Leu Pro Asn Thr Glu Gln Lys Thr Leu Ala Phe Gly Ala Ala		
370	375	380
Ala Ser Met Val His Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu		
385	390	395
400		
Ser Glu Ala Pro Lys Cys Ala Phe Val Leu Ala Asn Ile Leu Arg Gln		
405	410	415
Asn His Ser Lys Asn Met Leu Thr Ser Ser Ser Thr Pro Ser Ile Ser		
420	425	430
Thr Gln Ala Trp Asn Thr Leu Trp Pro Gln Glu Arg Lys Arg Gln Arg		
435	440	445

Ser Phe Phe Leu Phe Gly Leu Ala Leu Ile Leu Gln Leu Asp Ile Glu
 450 455 460

Gly Ile Arg Ser Phe Phe Arg Ala Phe Phe Arg Val Pro Lys Trp Met
 465 470 475 480

Trp Gln Gly Phe Leu Gly Ser Ser Leu Ser Xaa Ala Asp Leu Met Leu
 485 490 495

Phe Ala Phe Tyr Met Phe Ile Ile Ala Pro Asn Asp Met Arg Arg Gly
 500 505 510

Leu Ile Arg His Leu Leu Ser Asp Pro Thr Gly Ala Thr Leu Ile Arg
 515 520 525

Thr Tyr Leu Thr Phe
 530

<210> 27
 <211> 374
 <212> PRT
 <213> *Arabidopsis thaliana*

<400> 27
 Glu Asp Glu Phe Asn Asp Leu Gly Leu Gln Lys Cys Ile Glu His Val
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Trp Arg Glu Thr Ile Val Tyr Leu Asp Asp Asp Lys Pro Ile Thr Ile
 20 25 30

Gly Arg Ala Tyr Gly Arg Val Ser Arg Arg Leu Leu His Glu Glu Leu
 35 40 45

Leu Arg Arg Cys Val Glu Ser Gly Val Ser Tyr Leu Ser Ser Lys Val
 50 55 60

Asp Ser Ile Thr Glu Ala Ser Asp Gly Leu Arg Leu Val Ala Cys Asp
 65 70 75 80

Asp Asn Asn Val Ile Pro Cys Arg Leu Ala Thr Val Ala Ser Gly Ala
 85 90 95

Ala Ser Gly Lys Leu Leu Gln Tyr Glu Val Gly Gly Pro Arg Val Cys
 100 105 110

Val Gln Thr Ala Tyr Gly Val Glu Val Glu Val Glu Asn Ser Pro Tyr
 115 120 125

Asp Pro Asp Gln Met Val Phe Met Asp Tyr Arg Asp Tyr Thr Asn Glu
 130 135 140

Lys Val Arg Ser Leu Glu Ala Glu Tyr Pro Thr Phe Leu Tyr Ala Met
 145 150 155 160

Pro Met Thr Lys Ser Arg Leu Phe Phe Glu Glu Thr Cys Leu Ala Ser
 165 170 175

Lys Asp Val Met Pro Phe Asp Leu Leu Lys Thr Lys Leu Met Leu Arg
 180 185 190

Leu Asp Thr Leu Gly Ile Arg Ile Leu Lys Thr Tyr Glu Glu Trp

195	200	205				
Ser Tyr Ile Pro Val Gly	Gly Ser Leu Pro Asn	Thr Glu Gln Lys Asn				
210	215	220				
Leu Ala Phe Gly Ala Ala	Ala Ser Met Val His	Pro Ala Thr Gly Tyr				
225	230	235	240			
Ser Val Val Arg Ser Leu Ser Glu Ala	Pro Lys Tyr Ala Ser Val Ile					
245	250	255				
Ala Glu Ile Leu Arg Glu Glu	Thr Thr Lys Gln Ile Asn	Ser Asn Ile				
260	265	270				
Ser Arg Gln Ala Trp Asp Thr	Leu Trp Pro Pro Glu Arg	Lys Arg Gln				
275	280	285				
Arg Ala Phe Phe Leu Phe	Gly Leu Ala Leu Ile Val	Gln Phe Asp Thr				
290	295	300				
Glu Gly Ile Arg Ser Phe	Phe Arg Thr Phe	Phe Arg Leu Pro Lys Trp				
305	310	315	320			
Met Trp Gln Gly Phe Leu Gly	Ser Thr Leu Thr Ser Gly	Asp Leu Val				
325	330	335				
Leu Phe Ala Leu Tyr Met Phe	Val Ile Ser Pro Asn Asn	Leu Arg Lys				
340	345	350				
Gly Leu Ile Asn His Leu Ile	Ser Asp Pro Thr Gly	Ala Thr Met Ile				
355	360	365				
Lys Thr Tyr Leu Lys Val						
370						
<210> 28						
<211> 1002						
<212> DNA						
<213> Adonis palaestina						
<400> 28						
ATTCATCTTC	AGCAGCGCTG	TCGTACTCTT	TCTATATCTT	CTTCCATCAC	TAACAGTAGT	60
CGCCGACGGT	TGAATCGGCT	ATTGCGCTCA	ACGTCAACTA	TGGGTGAAGT	CACTGATGCT	120
GGAATGGATG	CTGTTCAAGAA	GCGGCTCATG	TTCGACGACG	AATGTATTTT	GGTGGATGAG	180
AATGACAAGG	TCGTCGGGCA	TGATTCCAAA	TACAACGTGTC	ATTTGATGGA	AAAGATAGAG	240
GCAGAAAATT	TGCTTCACAG	AGCCTTCAGT	GTTTCTTGT	TCAAACCAA	ATATGAATTG	300
CTTCTTCAGC	AACGATCCGC	CACAAAGGTA	ACATTCCGC	TCGTATGGAC	AAACACATGT	360
TGCAGTCATC	CTCTCTTCG	TGATTCCGAG	CTCATAGAAG	AAAATTATCT	CGGTGTACGA	420
AACGCTGCAC	AAAGAAAGCT	TTTAGACGAG	CTAGGCATTC	CAGCTGAAGA	TGTCCCAGTT	480
GATGAATTAA	CTCCTCTTGG	TCGCATTCTT	TACAAAGCTC	CATCTGACGG	CAAATGGGGA	540
GAGCACGAAT	TGGACTATCT	CCTATTATT	GTCCGAGATG	TGAAATACGA	TCCAAACCCA	600

GATGAAGTTG CTGATGCTAA GTATGTTAAT CGCGAGGAGT TGAGAGAGAT ACTGAGAAAA	660
GCTGATGCTG GTGAAGAGGG ACTCAAGTTG TCTCCTTGGT TTAGATTGGT TGTTGATAAC	720
TTTTGTTCA AGTGGTGGGA TCATGTAGAG CAGGGTACGA TTAAGGAAGT TGCTGACATG	780
AAAACATATCC ACAAGTTGAC TTAAGAGGAC TTCTCTCCTC TGTTCTACTA TTTGTTTTT	840
GCTACAATAA GTGGGTGGTG ATAAGCAGTT TTTCTGTTT CTTTAATTAA TGGCTTTGA	900
ATTTGCCTCG ATGTTGAAC TGTAAACATAT TTAGACAAAT ATGAGACCTT GTAAGTTGAA	960
TTTGAGGCTG AATTTATATT TTTGGGAACA TAATAATGTT AA	1002

<210> 29
 <211> 1271
 <212> DNA
 <213> Adonis palaestina

<400> 29	
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AAAAACACCG CTTTGGGCTT TGGCCCTCC ATATCGGAAT CCTTGTTAC GATACGCATC	120
TAAACCAGTA ATTCTCGGTT TTAATTGTT TCCTAAATTAA GGCCCCTTTC CGGAATCCCG	180
AGAATTATGT CGTCGATCAG GATTAATCCT TTATATAGTA TCTTCTCCAC CACCACTAAA	240
ACATTATCAG CTTCGTGTTC TTCTCCCGCT GTTCATCTTC AGCAGCGTTG TACGTACTCT	300
TTCTATTTCT TCTTCCATCA CTAACAGTCC TCGCCGAGGG TTGAATCGGC TGTTGCCTC	360
AACGTCGACT ATGGGTGAAG TCGCTGATGC TGGTATGGAT GCCGTCCAGA AGCGGCTTAT	420
GTTCGACGAT GAATGTATTT TGGTGGATGA GAATGACAAG GTCGTCGGAC ATGATTCCAA	480
ATACAACGT CATTGATGG AAAAGATAGA GGCAGAAAAC TTGCTTCACA GAGCCTTCAG	540
TGTTTCTTA TTCAACTCAA AATACGAGTT GCTTCTTCAG CAACGATCTG CAACGAAGGT	600
AACATTCCCG CTCGTATGGA CAAACACCTG TTGCAGCCAT CCCCTCTTCC GTGATTCCGA	660
ACTCATAGAA GAAAATTTTC TCGGGGTACG AAACGCTGCA CAAAGGAAGC TTTTAGACGA	720
GCTAGGCATT CCAGCTGAAG ACGTACCAAGT TGATGAATTC ACTCCTCTTG GTCGCATTCT	780
TTACAAAGCT CCATCTGACG GAAAATGGGG AGAGCACGAA CTGGACTATC TTCTGTTTAT	840
TGTCCGAGAT GTGAAATACG ATCCAAACCC AGATGAAGTT GCTGACGCTA AGTACGTTAA	900
TCGCGAGGAG TTGAAAGAGA TACTGAGAAA AGCTGATGCA GGTGAAGAGG GAATAAAGTT	960
GTCTCCTTGG TTTAGATTGG TTGTGGATAA CTTTTGTTTC AAGTGGTGGG ATCATGTAGA	1020
GGAGGGGAAG ATTAAGGACG TCGCCGACAT GAAAACATATC CACAAGTTGA CTTAAGAGAA	1080
AGTCTCTTAA GTTCTACTAT TTGGTTTTG CTTCAATAAG TGGATGGTGA TGAGCAGTT	1140
TTATGCTTCC TTTAATTG GCTTTCAAT TTGCTTTATG TGTTGAACCTT GTAACATATT	1200
TAGTCAAATA TGAGACCTTG TGAGTTGAAT TTGAGGTTAT ATTTATAGTT TTGGGAACAT	1260

AAAAAAA A

1271

<210> 30
 <211> 1109
 <212> DNA
 <213> *Haematococcus pluvialis*

<400> 30
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 ACGCATATCC CGCGCGTGAA CTCCGCCAG CAGCCCAGCT GTGCACACGC GCGACTCCAG 120
 TTTAAGCTCA GGAGCATGCA GCTGCTTGCC GAGGACCGCA CAGACCACAT GAGGGGTGCA 180
 AGCACCTGGG CAGGCGGGCA GTCGCAGGAT GAGCTGATGC TGAAGGACGA GTGCATCTTA 240
 GTGGATGCTG ACGACAACAT CACAGGCCAT GCCAGCAAGC TGGAGTGCCA CAAATTCTTA 300
 CCACATCAGC CTGCAGGCCT GCTGCACCAG GCCTCTCTG TGTTCCCTGTT TGACGACCAG 360
 GGGCGACTGC TGCTGCAACA GCGTGCACGC TCAAAAATCA CCTTCCCAAG TGTGTGGACG 420
 AACACCTGCT GCAGCCACCC TCTACATGGG CAGACCCCAG ATGAGGTGGA CCAACTAAGC 480
 CAGGTGGCCG ACGGCACAGT ACCTGGCGCA AAAGCTGCTG CCATCCGCAA GTTGGAGCAC 540
 GAGCTGGGA TACCAGCGCA CCAGCTGCCG GCAAGCGCGT TTGCTTCCT CACGCGTTG 600
 CACTACTGTG CCGCGGACGT GCAGCCGGCT GCGACACAAT CAGCGCTCTG GGGCGAGCAC 660
 GAGATGGACT ACATCTTATT CATCCGGGCC AACGTCACCT TGGCGCCCAA CCCTGACGAG 720
 GTGGACGAAG TCAGGTACGT GACGCAAGAG GAGCTGCGGC AGATGATGCA GCCGGACAAC 780
 GGGTTGCAAT GGTCGCCGTG GTTTCGCATC ATGCCGCGC GCTTCCTTGA GCGTTGGTGG 840
 GCTGACCTGG ACGCGCCCT AAACACTGAC AAACACGAGG ATTGGGAAC GGTGCATCAC 900
 ATCAACGAAG CGTGAAGGCA GAAGCTGCAG GATGTGAAGA CACGTCACTGG GGTGGAATTG 960
 CGTACTTGGC AGCTTCGTAT CTCCCTTTTC TGAGACTGAA CCTGCAGAGC TAGAGTCAAT 1020
 GGTGCATCAT ATTCACTCGTC TCTCTTTGT TTTAGACTAA TCTGTAGCTA GAGTCACTGA 1080
 TGAATCCTTT ACAACTTCA AAAAAAAA 1109

<210> 31
 <211> 985
 <212> DNA
 <213> *Lactuca sativa*

<400> 31
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 TTCTTCCTTC TTGCTGCCTC GGAAATCTTC TTTCCCTCCA ATGCCGTCTC TCGCAGCCGC 120
 TAGTGTTCCTC CTCCACCCCTC TTTCGTCTGC CGCTATGGGC GATTCCAGCA TGGATGCTGT 180
 CCAGCGACGT CTCATGTTCG ATGACGAATG CATTGGTG GATGAGAATG ACAAAAGTGGT 240
 TGGCCATGAT ACTAAATACA ATTGTCAATT GATGGAGAAG ATTGAAAAGG GAAATATGCT 300

ACACAGAGCA TTCAGTGTGT TCTTGTCAA CTCGAAATAT GAATTACTCC TTCA	360
GCAGCAACG TTCTGCAACC AAGGTGACTT TCCCTTGTT ATGGACAAAC ACGTGTGCA GCCATCCACT	420
ATACAGGGAG AGTGAGCTTA TTGACGAAAA CGCCCTTGGG GTGAGGAATG CTGCACAGAG	480
GAAGCTCCTG GATGAACCTCG GCATCCCTGG AGCAGATGTT CCGGTTGATG AGTCACACTCC	540
ATTGGGTCGC ATTCTATACA AGGCCGCATC GGATGGAAAG TGGGGAGAAC ATGAACATTGA	600
TTACCTGCTG TTTATGGTAC GTGATGTTGG TTTGGATCCG AACCCAGATG AAGTGAAAGA	660
TGTAAAATAT GTGAACCGGG AAGAGCTGAA GGAATTGGTA AGGAAGGCAG ATGCTGGTGA	720
AGAGGGTGTG AAGCTGTCCC CGTGGTCAA ATTGATTGTC GATAATTCT TGTTTCAGTG	780
GTGGGATCGA CTCCATAAGG GAACCCTAAC CGAAGCTATT GATATGAAAA CAATCCACAA	840
ACTCACATAA AAACACTACA CTAGTAGGAG AGAGGATTAT ATGAGATATT TGTTATATGT	900
GAAATTGAAA TTCAGATGAA TGCTTGTATT TATTCTATT TGGACAAACT TCAACTTCTT	960
TTTGCTACCT TATCAGAAAA AAAAAA	985

<210> 32

<211> 988

<212> DNA

<213> *Lactuca sativa*

<400> 32	
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CTGTCCAGAG ACGTCTCATG TTTGATGATG AATGCATTT GGTTGATGAA AATGACAATG	180
TTCTTGGGCA TGATACCAAA TACAATTGTC ACTTGATGGA GAAGATTGAG AAAGATAATT	240
TGCTTCATAG AGCATTCACT GTATTTTAT TCAATTCAA ATACGAATTA CTCCCTTCAGC	300
AAAGGTCAAG AACCAAGGTG ACATTCCTT TGGTATGGAC AAACACCTGT TGCAGCCATC	360
CACTATACAG AGAATCGGAG TTAATTCCCG AAAATGCCCT TGGGGTCAGA AATGCTGCAC	420
AGAGGAAGCT TCTAGATGAA CTCGGTATCC CTGCTGAAGA TGTTCCAGTT GATGAGTTCA	480
CAACTTTAGG TCGCATGTTG TACAAGGCTC CATCTGATGG AAAATGGGT GAACATGAAG	540
TTGATTACCT ACTCTTCCTC GTGCGTGACG TTGCCGTGAA CCCAAACCT GATGAGGTGG	600
CGGACATTAG ATACGTGAAC CAAGAAGAGT TAAAAGAGTT ACTAAGGAAG GCGGATGCGG	660
GTGAGGAGGG TTTGAAATTG TCCCCATGGT TTAGGCTAGT GGTGGACAAC TTCTTGTCA	720
AATGGTGGGA TCATGTCAA AAGGGGACAC TCAATGAAGC AATTGACATG AAAACCATTC	780
ATAAGTTGAT ATGAAAAATG GTTAATATTG ATGGTGGTGG TTTGGAGCTA ATAATTGATG	840
TGTTCAAGTC TCGGTCTTC TTTTTTAAC GTTTTTTTT TTTCTTTAT TGGGAGTGT	900
TATTGTGTAC TTGTAACGTA GGCCCTTGG TTACGCTTTA AGAGTTAAT AAAGAACAC	960

CGTTAATTAA AAAAAAAA AAAAAAAA

988

<210> 33
 <211> 1874
 <212> DNA
 <213> Chlamydomonas reinhardtii

<400> 33	
GGCACGAGCT CGAGTTGTT TTACCATGAC ATCGGAATT TGGAAAGCTTG AACTACCTCA	60
ATTACTCAAG TAACTCGCGG CAACACATTT CGCGCGCCAT CGCTGTTTC TCTGCTCCAG	120
CTACCGAGCA GCATTGCTTT AGATCGCTT GATGTCATAA ACTCCCACCTT ATATGAGATC	180
CAGTTTCATC GAGCCCAAGC CCAGAGCGCA ACCTGTCTTA AGCCGCGGCA GGGCGTCCAT	240
GCCGCTCGCG CAAAGCCGTG CTCTCGTTGC GCGTGTAGC TCCGCCCTGT GCCCGGGAGC	300
AGGACTTTCA CAGGCTCAAA GCGTTGCGGT GCGAATGGCG AGTTCGTCAA CCTGGGAAGG	360
CACGGGCCTG AGCCAGGATG ACTTCATGCA GCGGGACGAG TGCTTGGTGG TGGACGAGCA	420
GGACCGGCTG CTAGGCACCG CCAACAAGTA CGACTGCCAC CGCTTCGAGG CGGCCAAGGG	480
CCAGCCCTGC GGCCGCCTGC ACCGCGCCTT CTCCGTGTT C TGTTCAGCC CCGACGGCCG	540
ACTGCTGCTG CAGCAGCGCG CAGCCAGCAA GGTGACGTT CCGGGTGTGT GGACCAACAC	600
CTGCTGCTCG CACCCGCTGG CGGGCCAGGC GCCGGACGAG GTGGACCTGC CGGCGGCGGT	660
AGCCTCGGGC CAGGTGCCGG GCATCAAGGC GGCGCGGTG CGCAAGCTGC AGCACGAGCT	720
GGGGATACCG CCGGAGCAGG TTCCCGCCCTC CTCCTTCTCC TTCCCTCACGC GTCTGCACTA	780
CTGCGCCGCC GACACCGCCA CGCACGGCCC GGCGCGGAG TGGGGCGAGC ACGAGGTGGA	840
CTACGTGCTG TTCTGCGGC CGCAGCAGCC CGTCAGCCTG CAGCCCAACC CAGACGAGGT	900
GGACGCCACG CGCTACGTGA CGCTGCCGGA GCTTCAGTCC ATGATGGCGG ACCCCGGCCT	960
CAGCTGGAGC CCCTGGTTCC GCATCCTGGC CACACAGCCC GCCTTCCTGC CGCCTGGTG	1020
GGCGACCTG AAGCGCGCT GGCGCCCGGG CGGCAGCCGA CTGTCGGACT GGGGCACCAT	1080
CCACCGCGTC ATGTGAAGAA AAAGGGGAAG CAGGGCGGG AGCAGGGGAT GAATGGGAAT	1140
GTGAATGCGA TTGTGATGCG GCGTGGGATG AGGTCTGAAG ACAGGGGAA AATCGGGGG	1200
CGGGCGTGTAG CGTGTGTGTA CGTGAGCGAC AAAGCCGGGA GGCGGACCGC GCGATGGGTA	1260
CATGTGTGTG CGGAGGGTCG GTGGGTCGGT CGGTTGCGCG GCATAGCGTG TTGTGTGTGT	1320
CGGGCTGCAG GGGTATGTGG GCACCCGGGC ACGGAGGAGA AGGCACACGC AGGTGGCGCG	1380
GAGGTGTGTC AGGGGCCATG GGCGGGCCTC ACTCCTGGTC GTGCCAGTG GTCTCGTGGG	1440
CAGAGTGGCA GGGGCTGCAC CCATATGAGC GGCGCACTGC CGCGCTGGC TAAGTCCTTA	1500
TCACTTGGTG AGGTGGGGCG AGGTGGCTGT GGGCGGGCGGG CGCAGTGGCA GAAGGACACG	1560
GTGTGTGAGC GGTGGAGCTC TGGCCGTGCC GGCGTGAAGG GGCGGATAGC GATATGACGT	1620

TGTGCTTGGC CGCTGTAATG CGGGAGAATG TGCAGGCCGC GAGAAGCGGG CGGTGGCAGG	1680
AGGCCGCAGG CTGCAGCACC CGTTGGGAG GTGCCACCTG CAGGCGCGGC GCCGGCGGG	1740
CCTGAGTAAT GGGCGCCTGA GTAGTGGCGG CCACAGGAGG CGCAGGAGGC AGCAGCAGGA	1800
GGACGAGCTG GAGGGACCCG TTGGCAACCC AAGGTTGCGC GTGTAACATA GTGCCATAC	1860
AAAAAAAAAA AAAA	1874

<210> 34
 <211> 954
 <212> DNA
 <213> Tagetes erecta

<400> 34	
CCAAAAACAA CTCAAATCTC CTCCGTCGCT CTTACTCCGC CATGGGTGAC GACTCCGGCA	60
TGGATGCTGT TCAGCGACGT CTCATGTTG ACGATGAATG CATTGGTG GATGAGTGTG	120
ACAATGTGGT GGGACATGAT ACCAAATACA ATTGTCACTT GATGGAGAAG ATTGAAACAG	180
GTAAAATGCT GCACAGAGCA TTCAGCGTT TTCTATTCAA TTCAAAATAC GAGTTACTTC	240
TTCAGCAACG GTCTGCAACC AAGGTGACAT TTCCCTTAGT ATGGACCAAC ACCTGTTGCA	300
GCCATCCACT CTACAGAGAA TCCGAGCTTG TTCCGAAAA CGCCCTTGGA GTAAGAAATG	360
CTGCACAGAG GAAGCTGTTG GATGAACCTCG GTATCCCTGC TGAAGATGTT CCCGTTGATC	420
AGTTTACTCC TTTAGGTCGC ATGCTCTACA AGGCTCCATC TGATGGAAAG TGGGGAGAAC	480
ATGAACTTGA CTACCTACTT TTCATAGTGA GAGACGTTGC TGTAAACCCG AACCCAGATG	540
AAGTGGCGGA TATCAAATAT GTGACCAGAA GAGTAAAGG AGCTGCTAAG GAAAGCAGAT	600
GCGGGGAGG AGGGTTGAA GCTGTCTCCA TGGTCAGGT TAGTGGTTGA TAACTCTTG	660
TTCAAGTGGT GGGATCATGT GCAAAAGGGT ACACTCACTG AAGCAATTGA TATGAAAACC	720
ATACACAAAGC TGATATAGAA ACACACCCCTC AACCGAAAAG TTCAAGCCTA ATAATTGGG	780
TTGGGTCGGG TCTACCATCA ATTGTTTTT TCTTTAAGA AGTTTAATC TCTATTTGAG	840
CATGTTGATT CTTGCTTTT GTGTGTAAGA TTTGGGTTT CGTTTCAGTT GTAATAATGA	900
ACCATTGATG GTTGCAATT TCAAGTTCCCT ATCGACATGT AGTGATCTAA AAAA	954

<210> 35
 <211> 1031
 <212> DNA
 <213> Oryza sativa

<400> 35	
CCTCCCTTTG CCTCGCGCAG AGGCGGCCGC GCCTCTCCG CCGCGAGGAT GGCCGGCGCC	60
GCCGCCGCCG TGGAGGACGC CGGGATGGAC GAGGTCCAGA AGCGGCTCAT GTTCGACGAC	120
GAATGCATTT TGGTGGATGA ACAAGACAAT GTTGGTGGCC ATGAATCAAAT ATATAACTGC	180
CATCTGATGG AAAAATCGA ATCTGAAAAT CTACTTCATA GGGCTTCAG TGTATTCTG	240

TTCAACTCAA AATATGAAC	T	CCTACTCCAG CAACGATCTG CAACAAAGGT TACATTCCT	300
CTAGTTGGA CCAACACTTG	CTGCAGCCAT CCTCTGTACC GTGAGTCTGA GCTTATACAG	360	
GAAAACCTACC TTGGTGTAG AAATGCTGCT CAGAGGAAGC TCTTGGATGA GCTGGGCATC	420		
CCAGCTGAAG ATGTGCCAGT TGACCAATT	ACCCCTCTTG GTCGGATGCT TTACAAGGCC	480	
CCATCTGATG GAAAATGGGG TGAACACGAG CTTGACTACC TGCTGTTCAT CGTCCGCGAC	540		
GTGAAGGTAG TCCCGAACCC GGACGAAGTG GCCGATGTGA AATACGTGAG CCGTGAGCAG	600		
CTGAAGGAGC TCATCCGAA AGCGGACGCC GGAGAGGAAG GCCTGAAGCT GTCTCCCTGG	660		
TTCCGGCTGG TTGTTGACAA CTTCCTCATG GGCTGGTGGG ATCACGTCGA GAAAGGCACC	720		
CTCAACGAGG CCGTGGACAT GGAGACCATC CACAAGCTGA AGTAAGGACT GCGATGTTGT	780		
GGCTGGAAAG AATGATCCTG AAGACTCTGT TCTTGTGCTG CTGCATATTA CTCTTACCAAG	840		
GGAAGTTGCA GAAGTCAGAA GAAGCTTTG TATGTTCTG GGTTTGGAGC TTGGAAGTGT	900		
TGGGCTCTGC TGACTGAGAG ATTCCCTTAT AGAGTGTCTA TGTAAATTAA GCAAACATTCT	960		
ATATTATACA TGATTAGTTA ATTGTTCGGT GTCTGAATAA AGAACAAATAG CATGTTCCAT	1020		
GTTTATTTGC T	1031		

<210> 36

<211> 232

<212> PRT

<213> Tagetes erecta

<400> 36

Met	Gly	Asp	Asp	Ser	Gly	Met	Asp	Ala	Val	Gln	Arg	Arg	Leu	Met	Phe
1						5			10				15		

Asp	Asp	Glu	Cys	Ile	Leu	Val	Asp	Glu	Cys	Asp	Asn	Val	Val	Gly	His
				20				25				30			

Asp	Thr	Lys	Tyr	Asn	Cys	His	Leu	Met	Glu	Lys	Ile	Glu	Thr	Gly	Lys
				35			40				45				

Met	Leu	His	Arg	Ala	Phe	Ser	Val	Phe	Leu	Phe	Asn	Ser	Lys	Tyr	Glu
				50			55		60						

Leu	Leu	Leu	Gln	Gln	Arg	Ser	Ala	Thr	Lys	Val	Thr	Phe	Pro	Leu	Val
					65		70		75			80			

Trp	Thr	Asn	Thr	Cys	Cys	Ser	His	Pro	Leu	Tyr	Arg	Glu	Ser	Glu	Leu
				85				90			95				

Val	Pro	Glu	Asn	Ala	Leu	Gly	Val	Arg	Asn	Ala	Ala	Gln	Arg	Lys	Leu
				100				105			110				

Leu	Asp	Glu	Leu	Gly	Ile	Pro	Ala	Glu	Asp	Val	Pro	Val	Asp	Gln	Phe
					115			120			125				

Thr	Pro	Leu	Gly	Arg	Met	Leu	Tyr	Lys	Ala	Pro	Ser	Asp	Gly	Lys	Trp
					130		135				140				

Gly Glu His Glu Leu Asp Tyr Leu Leu Phe Ile Val Arg Asp Val Ala
 145 150 155 160

Val Asn Pro Asn Pro Asp Glu Val Ala Asp Ile Lys Tyr Val Ser His
 165 170 175

Glu Glu Leu Lys Glu Leu Leu Arg Lys Ala Asp Ala Gly Glu Glu Gly
 180 185 190

Leu Lys Leu Ser Pro Trp Phe Arg Leu Val Val Asp Asn Phe Leu Phe
 195 200 205

Lys Trp Trp Asp His Val Gln Lys Gly Thr Leu Thr Glu Ala Ile Asp
 210 215 220

Met Lys Thr Ile His Lys Leu Ile
 225 230

<210> 37
 <211> 280
 <212> PRT
 <213> Lactuca Sativa

<400> 37
 Met Leu Lys Phe Pro Pro Phe Lys Thr Ile Ala Thr Met Ile Ser Ser
 1 5 10 15

Pro Tyr Ser Ser Phe Leu Leu Pro Arg Lys Ser Ser Phe Pro Pro Met
 20 25 30

Pro Ser Leu Ala Ala Ala Ser Val Phe Leu His Pro Leu Ser Ser Ala
 35 40 45

Ala Met Gly Asp Ser Ser Met Asp Ala Val Gln Arg Arg Leu Met Phe
 50 55 60

Asp Asp Glu Cys Ile Leu Val Asp Glu Asn Asp Lys Val Val Gly His
 65 70 75 80

Asp Thr Lys Tyr Asn Cys His Leu Met Glu Lys Ile Glu Lys Gly Asn
 85 90 95

Met Leu His Arg Ala Phe Ser Val Phe Leu Phe Asn Ser Lys Tyr Glu
 100 105 110

Leu Leu Leu Gln Gln Arg Ser Ala Thr Lys Val Thr Phe Pro Leu Val
 115 120 125

Trp Thr Asn Thr Cys Cys Ser His Pro Leu Tyr Arg Glu Ser Glu Leu
 130 135 140

Ile Asp Glu Asn Ala Leu Gly Val Arg Asn Ala Ala Gln Arg Lys Leu
 145 150 155 160

Leu Asp Glu Leu Gly Ile Pro Gly Ala Asp Val Pro Val Asp Glu Phe
 165 170 175

Thr Pro Leu Gly Arg Ile Leu Tyr Lys Ala Ala Ser Asp Gly Lys Trp
 180 185 190

Gly Glu His Glu Leu Asp Tyr Leu Leu Phe Met Val Arg Asp Val Gly

195	200	205
Leu Asp Pro Asn Pro Asp Glu Val Lys Asp Val Lys	210	220
Tyr Val Asn Arg		
Glu Glu Leu Lys Glu Leu Val Arg Lys Ala Asp Ala Gly	225	235
Glu Gly		240
Val Lys Leu Ser Pro Trp Phe Lys Leu Ile Val Asp Asn Phe Leu Phe	245	250
		255
Gln Trp Trp Asp Arg Leu His Lys Gly Thr Leu Thr Glu Ala Ile Asp	260	265
		270
Met Lys Thr Ile His Lys Leu Thr	275	280
<210> 38		
<211> 229		
<212> PRT		
<213> Lactuca Sativa		
<400> 38		
Met Gly Asp Asp Ser Gly Met Asp Ala Val Gln Arg Arg Leu Met Phe	1	10
	5	15
Asp Asp Glu Cys Ile Leu Val Asp Glu Asn Asp Asn Val Leu Gly His	20	25
		30
Asp Thr Lys Tyr Asn Cys His Leu Met Glu Lys Ile Glu Lys Asp Asn	35	40
		45
Leu Leu His Arg Ala Phe Ser Val Phe Leu Phe Asn Ser Lys Tyr Glu	50	55
		60
Leu Leu Leu Gln Gln Arg Ser Glu Thr Lys Val Thr Phe Pro Leu Val	65	70
		75
		80
Trp Thr Asn Thr Cys Cys Ser His Pro Leu Tyr Arg Glu Ser Glu Leu	85	90
		95
Ile Pro Glu Asn Ala Leu Gly Val Arg Asn Ala Ala Gln Arg Lys Leu	100	105
		110
Leu Asp Glu Leu Gly Ile Pro Ala Glu Asp Val Pro Val Asp Glu Phe	115	120
		125
Thr Thr Leu Gly Arg Met Leu Tyr Lys Ala Pro Ser Asp Gly Lys Trp	130	135
		140
Gly Glu His Glu Val Asp Tyr Leu Leu Phe Leu Val Arg Asp Val Ala	145	150
		155
		160
Val Asn Pro Asn Pro Asp Glu Val Ala Asp Ile Arg Tyr Val Asn Gln	165	170
		175
Glu Glu Leu Lys Glu Leu Leu Arg Lys Ala Asp Ala Gly Glu Glu Gly	180	185
		190
Leu Lys Leu Ser Pro Trp Phe Arg Leu Val Val Asp Asn Phe Leu Phe	195	200
		205

Lys Trp Trp Asp His Val Gln Lys Gly Thr Leu Asn Glu Ala Ile Asp
210 215 220

Met Lys Thr Ile His
225

<210> 39
<211> 295
<212> PRT
<213> Adonis Palaestina

<400> 39
Met Ser Ser Ile Arg Ile Asn Pro Leu Tyr Ser Ile Phe Ser Thr Thr
1 5 10 15

Thr Lys Thr Leu Ser Ala Ser Cys Ser Ser Pro Ala Val His Leu Gln
20 25 30

Gln Arg Cys Arg Thr Leu Ser Ile Ser Ser Ser Ile Thr Asn Ser Pro
35 40 45

Arg Arg Gly Leu Asn Arg Leu Phe Ala Ser Thr Ser Thr Met Gly Glu
50 55 60

Val Ala Asp Ala Gly Met Asp Ala Val Gln Lys Arg Leu Met Phe Asp
65 70 75 80

Asp Glu Cys Ile Leu Val Asp Glu Asn Asp Lys Val Val Gly Tyr Asp
85 90 95

Ser Lys Tyr Asn Cys His Leu Met Glu Lys Ile Glu Ala Glu Asn Leu
100 105 110

Leu His Arg Ala Phe Ser Val Phe Leu Phe Asn Ser Lys Tyr Glu Leu
115 120 125

Leu Leu Gln Gln Arg Ser Ala Thr Lys Val Thr Phe Pro Leu Val Trp
130 135 140

Thr Asn Thr Cys Cys Ser His Pro Leu Phe Arg Asp Ser Glu Leu Ile
145 150 155 160

Glu Glu Asn Phe Leu Gly Val Arg Asn Ala Ala Gln Arg Lys Leu Leu
165 170 175

Asp Glu Leu Gly Ile Pro Ala Glu Asp Val Pro Val Asp Glu Phe Thr
180 185 190

Pro Leu Gly Arg Ile Leu Tyr Lys Ala Pro Ser Asp Gly Lys Trp Gly
195 200 205

Glu His Glu Leu Asp Tyr Leu Leu Phe Ile Val Arg Asp Val Lys Tyr
210 215 220

Asp Pro Asn Pro Asp Glu Val Ala Asp Ala Lys Tyr Val Asn Arg Glu
225 230 235 240

Glu Leu Lys Glu Ile Leu Arg Lys Ala Asp Ala Gly Glu Glu Gly Ile
245 250 255

Lys Leu Ser Pro Trp Phe Arg Leu Val Val Asp Asn Phe Leu Phe Lys

260

265

270

Trp Trp Asp His Val Glu Glu Gly Lys Ile Lys Asp Val Ala Asp Met
 275 280 285

Lys Thr Ile His Lys Leu Thr .
 290 295

<210> 40
 <211> 234
 <212> PRT
 <213> Adonis Palaestina

<400> 40
 Met Gly Glu Val Thr Asp Ala Gly Met Asp Ala Val Gln Lys Arg Leu
 1 5 10 15

Met Phe Asp Asp Glu Cys Ile Leu Val Asp Glu Asn Asp Lys Val Val
 20 25 30

Gly His Asp Ser Lys Tyr Asn Cys His Leu Met Glu Lys Ile Glu Ala
 35 40 45

Glu Asn Leu Leu His Arg Ala Phe Ser Val Phe Leu Phe Asn Ser Lys
 50 55 60

Tyr Glu Leu Leu Leu Gln Gln Arg Ser Ala Thr Lys Val Thr Phe Pro
 65 70 75 80

Leu Val Trp Thr Asn Thr Cys Cys Ser His Pro Leu Phe Arg Asp Ser
 85 90 95

Glu Leu Ile Glu Glu Asn Tyr Leu Gly Val Arg Asn Ala Ala Gln Arg
 100 105 110

Lys Leu Leu Asp Glu Leu Gly Ile Pro Ala Glu Asp Val Pro Val Asp
 115 120 125

Glu Phe Thr Pro Leu Gly Arg Ile Leu Tyr Lys Ala Pro Ser Asp Gly
 130 135 140

Lys Trp Gly Glu His Glu Leu Asp Tyr Leu Leu Phe Ile Val Arg Asp
 145 150 155 160

Val Lys Tyr Asp Pro Asn Pro Asp Glu Val Ala Asp Ala Lys Tyr Val
 165 170 175

Asn Arg Glu Glu Leu Arg Glu Ile Leu Arg Lys Ala Asp Ala Gly Glu
 180 185 190

Glu Gly Leu Lys Leu Ser Pro Trp Phe Arg Leu Val Val Asp Asn Phe
 195 200 205

Leu Phe Lys Trp Trp Asp His Val Glu Gln Gly Thr Ile Lys Glu Val
 210 215 220

Ala Asp Met Lys Thr Ile His Lys Leu Thr
 225 230

<210> 41
 <211> 238

<212> PRT
 <213> Oryza Sativa

<400> 41

Met	Ala	Gly	Ala	Ala	Ala	Val	Glu	Asp	Ala	Gly	Met	Asp	Glu	Val
1						5			10			15		

Gln Lys Arg Leu Met Phe Asp Asp Glu Cys Ile Leu Val Asp Glu Gln

	20					25					30			
--	----	--	--	--	--	----	--	--	--	--	----	--	--	--

Asp Asn Val Val Gly His Glu Ser Lys Tyr Asn Cys His Leu Met Glu

	35					40					45			
--	----	--	--	--	--	----	--	--	--	--	----	--	--	--

Lys Ile Glu Ser Glu Asn Leu Leu His Arg Ala Phe Ser Val Phe Leu

	50					55					60			
--	----	--	--	--	--	----	--	--	--	--	----	--	--	--

Phe Asn Ser Lys Tyr Glu Leu Leu Gln Gln Arg Ser Ala Thr Lys

	65					70					75			80
--	----	--	--	--	--	----	--	--	--	--	----	--	--	----

Val Thr Phe Pro Leu Val Trp Thr Asn Thr Cys Cys Ser His Pro Leu

		85					90				95			
--	--	----	--	--	--	--	----	--	--	--	----	--	--	--

Tyr Arg Glu Ser Glu Leu Ile Gln Glu Asn Tyr Leu Gly Val Arg Asn

	100					105					110			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

Ala Ala Gln Arg Lys Leu Leu Asp Glu Leu Gly Ile Pro Ala Glu Asp

	115					120					125			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

Val Pro Val Asp Gln Phe Thr Pro Leu Gly Arg Met Leu Tyr Lys Ala

	130					135					140			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

Pro Ser Asp Gly Lys Trp Gly Glu His Glu Leu Asp Tyr Leu Leu Phe

	145					150					155			160
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	-----

Ile Val Arg Asp Val Lys Val Val Pro Asn Pro Asp Glu Val Ala Asp

	165					170					175			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

Val Lys Tyr Val Ser Arg Glu Gln Leu Lys Glu Leu Ile Arg Lys Ala

	180					185					190			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

Asp Ala Gly Glu Gly Leu Lys Leu Ser Pro Trp Phe Arg Leu Val

	195					200					205			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

Val Asp Asn Phe Leu Met Gly Trp Trp Asp His Val Glu Lys Gly Thr

	210					215					220			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

Leu Asn Glu Ala Val Asp Met Glu Thr Ile His Lys Leu Lys

	225					230					235			
--	-----	--	--	--	--	-----	--	--	--	--	-----	--	--	--

<210> 42
 <211> 233
 <212> PRT
 <213> Arabidopsis thaliana

<400> 42

Met	Thr	Asp	Ser	Asn	Asp	Ala	Gly	Met	Asp	Ala	Val	Gln	Arg	Arg	Leu
1						5					10			15	

Met Phe Glu Asp Glu Cys Ile Leu Val Asp Glu Asn Asn Arg Val Val

	20					25					30				
--	----	--	--	--	--	----	--	--	--	--	----	--	--	--	--

Gly His Asp Thr Lys Tyr Asn Cys His Leu Met Glu Lys Ile Glu Ala
 35 40 45

Glu Asn Leu Leu His Arg Ala Phe Ser Val Phe Leu Phe Asn Ser Lys
 50 55 60

Tyr Glu Leu Leu Leu Gin Gln Arg Ser Lys Thr Lys Val Thr Phe Pro
 65 70 75 80

Leu Val Trp Thr Asn Thr Cys Cys Ser His Pro Leu Tyr Arg Glu Ser
 85 90 95

Glu Leu Ile Glu Glu Asn Val Leu Gly Val Arg Asn Ala Ala Gln Arg
 100 105 110

Lys Leu Phe Asp Glu Leu Gly Ile Val Ala Glu Asp Val Pro Val Asp
 115 120 125

Glu Phe Thr Pro Leu Gly Arg Met Leu Tyr Lys Ala Pro Ser Asp Gly
 130 135 140

Lys Trp Gly Glu His Glu Val Asp Tyr Leu Leu Phe Ile Val Arg Asp
 145 150 155 160

Val Lys Leu Gln Pro Asn Pro Asp Glu Val Ala Glu Ile Lys Tyr Val
 165 170 175

Ser Arg Glu Glu Leu Lys Glu Leu Val Lys Lys Ala Asp Ala Gly Asp
 180 185 190

Glu Ala Val Lys Leu Ser Pro Trp Phe Arg Leu Val Val Asp Asn Phe
 195 200 205

Leu Met Lys Trp Trp Asp His Val Glu Lys Gly Thr Ile Thr Glu Ala
 210 215 220

Ala Asp Met Lys Thr Ile His Lys Leu
 225 230

<210> 43
 <211> 293
 <212> PRT
 <213> Haematococcus pluvialis

<400> 43
 Met Leu Arg Ser Leu Leu Arg Gly Leu Thr His Ile Pro Arg Val Asn
 1 5 10 15

Ser Ala Gln Gln Pro Ser Cys Ala His Ala Arg Leu Gln Phe Lys Leu
 20 25 30

Arg Ser Met Gln Leu Leu Ser Glu Asp Arg Thr Asp His Met Arg Gly
 35 40 45

Ala Ser Thr Trp Ala Gly Gly Gln Ser Gln Asp Glu Leu Met Leu Lys
 50 55 60

Asp Glu Cys Ile Leu Val Asp Val Glu Asp Asn Ile Thr Gly His Ala
 65 70 75 80

Ser Lys Leu Glu Cys His Lys Phe Leu Pro His Gln Pro Ala Gly Leu

85

90

95

Leu His Arg Ala Phe Ser Val Phe Leu Phe Asp Asp Gln Gly Arg Leu
 100 105 110

Leu Leu Gln Gln Arg Ala Arg Ser Lys Ile Thr Phe Pro Ser Val Trp
 115 120 125

Thr Asn Thr Cys Cys Ser His Pro Leu His Gly Gln Thr Pro Asp Glu
 130 135 140

Val Asp Gln Leu Ser Gln Val Ala Asp Gly Thr Val Pro Gly Ala Lys
 145 150 155 160

Ala Ala Ala Ile Arg Lys Leu Glu His Glu Leu Gly Ile Pro Ala His
 165 170 175

Gln Leu Pro Ala Ser Ala Phe Arg Phe Leu Thr Arg Leu His Tyr Cys
 180 185 190

Ala Ala Asp Val Gln Pro Ala Ala Thr Gln Ser Ala Leu Trp Gly Glu
 195 200 205

His Glu Met Asp Tyr Ile Leu Phe Ile Arg Ala Asn Val Thr Leu Ala
 210 215 220

Pro Asn Pro Asp Glu Val Asp Glu Val Arg Tyr Val Thr Gln Glu Glu
 225 230 235 240

Leu Arg Gln Met Met Gln Pro Asp Asn Gly Leu Gln Trp Ser Pro Trp
 245 250 255

Phe Arg Ile Ile Ala Ala Arg Phe Leu Glu Arg Trp Trp Ala Asp Leu
 260 265 270

Asp Ala Ala Leu Asn Thr Asp Lys His Glu Asp Trp Gly Thr Val His
 275 280 285

His Ile Asn Glu Ala
 290

<210> 44

<211> 304

<212> PRT

<213> Haematococcus pluvialis

<400> 44

Met Leu Arg Ser Leu Leu Arg Gly Leu Thr His Ile Pro Arg Val Asn
 1 5 10 15

Ser Ala Gln Gln Pro Ser Cys Ala His Ala Arg Leu Gln Phe Lys Leu
 20 25 30

Arg Ser Met Gln Met Thr Leu Met Gln Pro Ser Ile Ser Ala Asn Leu
 35 40 45

Ser Arg Ala Glu Asp Arg Thr Asp His Met Arg Gly Ala Ser Thr Trp
 50 55 60

Ala Gly Gly Gln Ser Gln Asp Glu Leu Met Leu Lys Asp Glu Cys Ile
 65 70 75 80

Leu Val Asp Val Glu Asp Asn Ile Thr Gly His Ala Ser Lys Leu Glu
 85 90 95

Cys His Lys Phe Leu Pro His Pro Ala Gly Leu Leu His Arg Ala Phe
 100 105 110

Ser Val Phe Leu Phe Asp Asp Gln Gly Arg Leu Leu Gln Gln Arg
 115 120 125

Ala Arg Ser Lys Ile Thr Phe Pro Ser Val Trp Thr Asn Thr Cys Cys
 130 135 140

Ser His Pro Leu His Gly Gln Thr Pro Asp Glu Val Asp Gln Leu Ser
 145 150 155 160

Gln Val Ala Asp Gly Thr Val Pro Gly Ala Lys Ala Ala Ala Ile Arg
 165 170 175

Lys Leu Glu His Glu Leu Gly Ile Pro Ala His Gln Leu Pro Ala Ser
 180 185 190

Ala Phe Arg Phe Leu Thr Arg Leu His Tyr Cys Ala Ala Asp Val Gln
 195 200 205

Pro Ala Ala Thr Gln Ser Ala Leu Trp Gly Glu His Glu Met Asp Tyr
 210 215 220

Ile Leu Phe Ile Arg Ala Asn Val Thr Leu Ala Pro Asn Pro Asp Glu
 225 230 235 240

Val Asp Glu Val Arg Tyr Val Thr Gln Glu Glu Leu Arg Gln Met Met
 245 250 255

Gln Pro Asp Asn Gly Leu Gln Trp Ser Pro Trp Phe Arg Ile Ile Ala
 260 265 270

Ala Arg Phe Leu Glu Arg Trp Trp Ala Asp Leu Asp Ala Ala Leu Asn
 275 280 285

Thr Asp Lys His Glu Asp Trp Gly Thr Val His His Ile Asn Glu Ala
 290 295 300

<210> 45
 <211> 307
 <212> PRT
 <213> Chlamydomonas reinhardtii

<400> 45
 Met Arg Ser Ser Phe Ile Glu Pro Lys Pro Arg Ala Gln Pro Val Leu
 1 5 10 15

Ser Arg Gly Arg Ala Ser Met Arg Leu Ala Gln Ser Arg Ala Leu Val
 20 25 30

Ala Arg Val Ser Ser Ala Leu Trp Pro Gly Ala Gly Leu Ser Gln Ala
 35 40 45

Gln Ser Val Ala Val Arg Met Ala Ser Ser Ser Thr Trp Glu Gly Thr
 50 55 60

Gly Leu Ser Gln Asp Asp Phe Met Gln Arg Asp Glu Cys Leu Val Val

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65	70	75	80
Asp Glu Gln Asp Arg Leu Leu Gly Thr Ala Asn Lys Tyr Asp Cys His			
85		90	95
Arg Phe Glu Ala Ala Lys Gly Gln Pro Cys Gly Arg Leu His Arg Ala			
100	105	110	
Phe Ser Val Phe Leu Phe Ser Pro Asp Gly Arg Leu Leu Gln Gln			
115	120	125	
Arg Ala Ala Ser Lys Val Thr Phe Pro Gly Val Trp Thr Asn Thr Cys			
130	135	140	
Cys Ser His Pro Leu Ala Gly Gln Ala Pro Asp Glu Val Asp Leu Pro			
145	150	155	160
Ala Ala Val Ala Ser Gly Gln Val Pro Gly Ile Lys Ala Ala Ala Val			
165	170	175	
Arg Lys Leu Gln His Glu Leu Gly Ile Pro Pro Glu Gln Val Pro Ala			
180	185	190	
Ser Ser Phe Ser Phe Leu Thr Arg Leu His Tyr Cys Ala Ala Asp Thr			
195	200	205	
Ala Thr His Gly Pro Ala Ala Glu Trp Gly Glu His Glu Val Asp Tyr			
210	215	220	
Val Leu Phe Val Arg Pro Gln Gln Pro Val Ser Leu Gln Pro Asn Pro			
225	230	235	240
Asp Glu Val Asp Ala Thr Arg Tyr Val Thr Leu Pro Glu Leu Gln Ser			
245	250	255	
Met Met Ala Asp Pro Gly Leu Ser Trp Ser Pro Trp Phe Arg Ile Leu			
260	265	270	
Ala Thr Gln Pro Ala Phe Leu Pro Ala Trp Trp Gly Asp Leu Lys Arg			
275	280	285	
Arg Trp Arg Pro Gly Gly Ser Arg Leu Ser Asp Trp Gly Thr Ile His			
290	295	300	
Arg Val Met			
305			
<210> 46			
<211> 1848			
<212> DNA			
<213> Adonis palaestina			
<400> 46			
GAGAGAAAAA GAGTGTATA TTAATGTTAC TGTCGCATTG TTGCAACACA TATTCAAGACT			60
CCATTTCTT GTTTCTT CAAACAAACA AACTAATGTG ACGGAGTATC TAGCTATGGA			120
ACTACTGGT GTTCGCAACC TCATCTCTC TTGCCCTGTC TGGACTTTG GAACAAAGAAA			180
CCTTAGTAGT TCAAAACTAG CTTATAACAT ACATCGATAT GGTTCTTCTT GTAGAGTAGA			240

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TTTTCAAGTG	AGGGCTGATG	GTGGAAGCGG	GAGTAGAACT	TCTGTTGCTT	ATAAAAGAGGG	300
TTTTGTGGAC	GAGGAGGATT	TTATCAAAGC	TGGTGGTTCT	GAGCTTTGT	TTGTCCAAAT	360
GCAGCAAACA	AAGTCTATGG	AGAACAGGC	CAAGCTCGCC	GATAAGTTGC	CACCAATACC	420
TTTCGGAGAA	TCTGTGATGG	ACTTGGTTGT	AATAGGTTGT	GGACCTGCTG	GTCTTCACT	480
GGCTGCAGAA	GCTGCTAACGC	TAGGCTTGAA	AGTTGGCCTT	ATTGGTCCTG	ATCTTCCTTT	540
TACAAATAAT	TATGGTGTGT	GGGAAGACGA	GTTCAAAGAT	CTTGGACTTG	AACGTTGTAT	600
CGAGCATGCT	TGGAAGGACA	CCATCGTATA	TCTTGACAAT	GATGCTCCTG	TCCTTATTGG	660
TCGTGCATAT	GGACGAGTTA	GCCGGCATT	GCTGCATGAA	GAGTTGCTGA	AAAGGTGTGT	720
CGAGTCAGGT	GTATCATATC	TGAATTCTAA	AGTGGAAAGG	ATCACTGAAG	CTGGTGTGATGG	780
CCATAGTCTT	GTAGTTGTG	AAAACGACAT	CTTTATCCCT	TGCAGGCTTG	CTACTGTTGC	840
ATCTGGAGCA	GCTTCAGGGA	AACTTTGGA	GTATGAAGTA	GGTGGCCCTC	GTGTTTGTGT	900
CCAAACTGCT	TATGGTGTGG	AGGTTGAGGT	GGAGAACAAAT	CCATACGATC	CCAACTTAAT	960
GGTATTTATG	GACTACAGAG	ACTATATGCA	ACAGAAATT	CAGTGCCTGG	AAGAAGAATA	1020
TCCAACATT	CTCTATGTCA	TGCCCATGTC	GCCAACAAGA	CTTTTTTTG	AGGAAACCTG	1080
TTTGGCCTCA	AAAGATGCCA	TGCCCTTCGA	TCTACTGAAG	AGAAAACCAA	TGTCACGATT	1140
GAAGACTCTG	GGTATCCAAG	TTACAAAAAT	TTATGAAGAG	GAATGGCTT	ATATTCTGT	1200
TGGGGGTTCT	TTACCAAACA	CAGAGAAAA	GAACCTAGCA	TTTGGTGTG	CAGCAAGCAT	1260
GGTGCATCCA	GCAACAGGCT	ATTGGTTGT	ACGATCACTA	TCAGAAGCTC	CAAAATATGC	1320
TTCTGTAATT	GCAAAGATT	TGAAGCAAGA	TAACCTTGCA	TATGTGGTT	CTGGACAAAG	1380
CAGTGCAGTA	AACATTTCAA	TGCAAGCATG	GAGCAGTCTT	TGGCAAAGG	AGCGAAAACG	1440
TCAAAGAGCA	TTCTTCTTT	TCGGGTTAGA	GCTTATTGTG	CAGCTAGATA	TTGAAGCAAC	1500
CAGAACGTC	TTTAGAACCT	TCTTCCGCTT	GCCAACCTGG	ATGTGGTGGG	GTTCCTTGG	1560
GTCTTCACTA	TCATCTTTCG	ATCTTGTATT	GTTCATG	TACATGTTG	TTTGGCCCC	1620
GAACAGCATG	AGGATGTCAC	TTGTGAGACA	TTTGCCTTCA	GATCCTTGT	GTGCAGTTAT	1680
GTTAAAGCT	TACCTCGAAA	GGTAATCTGT	TTTATGAAAC	TATAGTGTCT	CATTAAATAA	1740
ATGAGGATCC	TTCGTATATG	TATATGATCA	TCTCTATGTA	TATCCTATAT	TCTAATCTCA	1800
TAAAGTAATC	GAAAATTCA	TGATAGAAAA	AAAAAAAAAA	AAAAAAA		1848

<210> 47
 <211> 529
 <212> PRT
 <213> Adonis palaestina

<400> 47
 Met Glu Leu Leu Gly Val Arg Asn Leu Ile Ser Ser Cys Pro Val Trp

1	5	10	15
Thr Phe Gly Thr Arg Asn Leu Ser Ser Ser Lys Leu Ala Tyr Asn Ile			
20	25		30
His Arg Tyr Gly Ser Ser Cys Arg Val Asp Phe Gln Val Arg Ala Asp			
35	40	45	
Gly Gly Ser Gly Ser Arg Ser Ser Val Ala Tyr Lys Glu Gly Phe Val			
50	55	60	
Asp Glu Glu Asp Phe Ile Lys Ala Gly Ser Glu Leu Leu Phe Val			
65	70	75	80
Gln Met Gln Gln Thr Lys Ser Met Glu Lys Gln Ala Lys Leu Ala Asp			
85	90		95
Lys Leu Pro Pro Ile Pro Phe Gly Glu Ser Val Met Asp Leu Val Val			
100	105		110
Ile Gly Cys Gly Pro Ala Gly Leu Ser Leu Ala Ala Glu Ala Ala Lys			
115	120	125	
Leu Gly Leu Lys Val Gly Leu Ile Gly Pro Asp Leu Pro Phe Thr Asn			
130	135	140	
Asn Tyr Gly Val Trp Glu Asp Glu Phe Lys Asp Leu Gly Leu Glu Arg			
145	150	155	160
Cys Ile Glu His Ala Trp Lys Asp Thr Ile Val Tyr Leu Asp Asn Asp			
165	170	175	
Ala Pro Val Leu Ile Gly Arg Ala Tyr Gly Arg Val Ser Arg His Leu			
180	185	190	
Leu His Glu Glu Leu Leu Lys Arg Cys Val Glu Ser Gly Val Ser Tyr			
195	200	205	
Leu Asp Ser Lys Val Glu Arg Ile Thr Glu Ala Gly Asp Gly His Ser			
210	215	220	
Leu Val Val Cys Glu Asn Glu Ile Phe Ile Pro Cys Arg Leu Ala Thr			
225	230	235	240
Val Ala Ser Gly Ala Ala Ser Gly Lys Leu Leu Glu Tyr Glu Val Gly			
245	250	255	
Gly Pro Arg Val Cys Val Gln Thr Ala Tyr Gly Val Glu Val Glu Val			
260	265	270	
Glu Asn Asn Pro Tyr Asp Pro Asn Leu Met Val Phe Met Asp Tyr Arg			
275	280	285	
Asp Tyr Met Gln Gln Lys Leu Gln Cys Ser Glu Glu Glu Tyr Pro Thr			
290	295	300	
Phe Leu Tyr Val Met Pro Met Ser Pro Thr Arg Leu Phe Phe Glu Glu			
305	310	315	320
Thr Cys Leu Ala Ser Lys Asp Ala Met Pro Phe Asp Leu Leu Lys Arg			
325	330		335

Lys Leu Met Ser Arg Leu Lys Thr Leu Gly Ile Gln Val Thr Lys Val
 340 345 350
 Tyr Glu Glu Glu Trp Ser Tyr Ile Pro Val Gly Gly Ser Leu Pro Asn
 355 360 365
 Thr Glu Gln Lys Asn Leu Ala Phe Gly Ala Ala Ala Ser Met Val His
 370 375 380
 Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu Ser Glu Ala Pro Lys
 385 390 395 400
 Tyr Ala Ser Val Ile Ala Lys Ile Leu Lys Gln Asp Asn Ser Ala Tyr
 405 410 415
 Val Val Ser Gly Gln Ser Ser Ala Val Asn Ile Ser Met Gln Ala Trp
 420 425 430
 Ser Ser Leu Trp Pro Lys Glu Arg Lys Arg Gln Arg Ala Phe Phe Leu
 435 440 445
 Phe Gly Leu Glu Leu Ile Val Gln Leu Asp Ile Glu Ala Thr Arg Thr
 450 455 460
 Phe Phe Arg Thr Phe Phe Arg Leu Pro Thr Trp Met Trp Trp Gly Phe
 465 470 475 480
 Leu Gly Ser Ser Leu Ser Ser Phe Asp Leu Val Leu Phe Ser Met Tyr
 485 490 495
 Met Phe Val Leu Ala Pro Asn Ser Met Arg Met Ser Leu Val Arg His
 500 505 510
 Leu Leu Ser Asp Pro Ser Gly Ala Val Met Val Arg Ala Tyr Leu Glu
 515 520 525
 Arg
 <210> 48
 <211> 378
 <212> PRT
 <213> Potato
 <400> 48
 Asp Glu Phe Lys Asp Leu Gly Leu Gln Ala Cys Ile Glu His Val Trp
 1 5 10 15
 Arg Asp Thr Ile Val Tyr Leu Asp Asp Asp Asp Pro Ile Leu Ile Gly
 20 25 30
 Arg Ala Tyr Gly Arg Val Ser Arg His Leu Leu His Glu Glu Leu Leu
 35 40 45
 Lys Arg Cys Val Glu Ala Gly Val Leu Tyr Leu Asn Ser Lys Val Asp
 50 55 60
 Arg Ile Val Glu Ala Thr Asn Gly His Ser Leu Val Glu Cys Glu Gly
 65 70 75 80
 Asp Val Val Ile Pro Cys Arg Phe Val Thr Val Ala Ser Gly Ala Ala
 85 90 95

Ser Gly Lys Phe Leu Gln Tyr Glu Leu Gly Gly Pro Arg Val Ser Val
100 105 110

Gln Thr Ala Tyr Gly Val Glu Val Asp Asn Asn Pro Phe Asp
115 120 125

Pro Ser Leu Met Val Phe Met Asp Tyr Arg Asp Tyr Val Arg His Asp
130 135 140

Ala Gln Ser Leu Glu Ala Lys Tyr Pro Thr Phe Leu Tyr Ala Met Pro
145 150 155 160

Met Ser Pro Thr Arg Val Phe Phe Glu Glu Thr Cys Leu Ala Ser Lys
165 170 175

Asp Ala Met Pro Phe Asp Leu Leu Lys Lys Lys Leu Met Leu Arg Leu
180 185 190

Asn Thr Leu Gly Val Arg Ile Lys Glu Ile Tyr Glu Glu Trp Ser
195 200 205

Tyr Ile Pro Val Gly Gly Ser Leu Pro Asn Thr Glu Gln Lys Thr Leu
210 215 220

Ala Phe Gly Ala Ala Ala Ser Met Val His Pro Ala Thr Gly Tyr Ser
225 230 235 240

Val Val Arg Ser Leu Ser Glu Ala Pro Lys Cys Ala Phe Val Leu Ala
245 250 255

Asn Ile Leu Arg Gln Asn His Ser Lys Asn Met Leu Thr Ser Ser Ser
260 265 270

Thr Pro Ser Ile Ser Thr Gln Ala Trp Asn Thr Leu Trp Pro Gln Glu
275 280 285

Arg Lys Arg Gln Arg Ser Phe Phe Leu Phe Gly Leu Ala Leu Ile Leu
290 295 300

Gln Leu Asp Ile Glu Gly Ile Arg Ser Phe Phe Arg Ala Phe Phe Arg
305 310 315 320

Val Pro Lys Trp Met Trp Gln Gly Phe Leu Gly Ser Ser Leu Ser Xaa
325 330 335

Ala Asp Leu Met Leu Phe Ala Phe Tyr Met Phe Ile Ile Ala Pro Asn
340 345 350

Asp Met Arg Arg Gly Leu Ile Arg His Leu Leu Ser Asp Pro Thr Gly
355 360 365

Ala Thr Leu Ile Arg Thr Tyr Leu Thr Phe
370 375

<210> 49
<211> 524
<212> PRT
<213> *Arabidopsis thaliana*

<400> 49

WO 99/63055

Met	Glu	Cys	Val	Gly	Ala	Arg	Asn	Phe	Ala	Ala	Met	Ala	Val	Ser	Thr
1				5					10					15	
Phe	Pro	Ser	Trp	Ser	Cys	Arg	Arg	Lys	Phe	Pro	Val	Val	Lys	Arg	Tyr
			20					25					30		
Ser	Tyr	Arg	Asn	Ile	Arg	Phe	Gly	Leu	Cys	Ser	Val	Arg	Ala	Ser	Gly
			35				40					45			
Gly	Gly	Ser	Ser	Gly	Ser	Glu	Ser	Cys	Val	Ala	Val	Arg	Glu	Asp	Phe
	50				55						60				
Ala	Asp	Glu	Glu	Asp	Phe	Val	Lys	Ala	Gly	Gly	Ser	Glu	Ile	Leu	Phe
	65				70				75			80			
Val	Gln	Met	Gln	Gln	Asn	Lys	Asp	Met	Asp	Glu	Gln	Ser	Lys	Leu	Val
						85			90			95			
Asp	Lys	Leu	Pro	Pro	Ile	Ser	Ile	Gly	Asp	Gly	Ala	Leu	Asp	His	Val
						100		105				110			
Val	Ile	Gly	Cys	Gly	Pro	Ala	Gly	Leu	Ala	Leu	Ala	Ala	Glu	Ser	Ala
						115		120				125			
Lys	Leu	Gly	Leu	Lys	Val	Gly	Leu	Ile	Gly	Pro	Asp	Leu	Pro	Phe	Thr
	130					135				140					
Asn	Asn	Tyr	Gly	Val	Trp	Glu	Asp	Glu	Phe	Asn	Asp	Leu	Gly	Leu	Gln
	145					150				155				160	
Lys	Cys	Ile	Glu	His	Val	Trp	Arg	Glu	Thr	Ile	Val	Tyr	Leu	Asp	Asp
						165		170				175			
Asp	Lys	Pro	Ile	Thr	Ile	Gly	Arg	Ala	Tyr	Gly	Arg	Val	Ser	Arg	Arg
						180		185				190			
Leu	Leu	His	Glu	Glu	Leu	Leu	Arg	Arg	Cys	Val	Glu	Ser	Gly	Val	Ser
						195		200				205			
Tyr	Leu	Ser	Ser	Lys	Val	Asp	Ser	Ile	Thr	Glu	Ala	Ser	Asp	Gly	Leu
						210		215				220			
Arg	Leu	Val	Ala	Cys	Asp	Asp	Asn	Asn	Val	Ile	Pro	Cys	Arg	Leu	Ala
	225					230			235				240		
Thr	Val	Ala	Ser	Gly	Ala	Ala	Ser	Gly	Lys	Leu	Leu	Gln	Tyr	Glu	Val
						245			250			255			
Gly	Gly	Pro	Arg	Val	Cys	Val	Gln	Thr	Ala	Tyr	Gly	Val	Glu	Val	Glu
						260			265			270			
Val	Glu	Asn	Ser	Pro	Tyr	Asp	Pro	Asp	Gln	Met	Val	Phe	Met	Asp	Tyr
						275		280				285			
Arg	Asp	Tyr	Thr	Asn	Glu	Lys	Val	Arg	Ser	Leu	Glu	Ala	Glu	Tyr	Pro
						290				295		300			
Thr	Phe	Leu	Tyr	Ala	Met	Pro	Met	Thr	Lys	Ser	Arg	Leu	Phe	Phe	Glu
	305						310			315			320		
Glu	Thr	Cys	Leu	Ala	Ser	Lys	Asp	Val	Met	Pro	Phe	Asp	Leu	Leu	Lys

325	330	335
Thr Lys Leu Met Leu Arg Leu Asp	Thr Leu Gly Ile Arg Ile Leu Lys	
340	345	350
Thr Tyr Glu Glu Glu Trp Ser	Tyr Ile Pro Val Gly Gly Ser Leu Pro	
355	360	365
Asn Thr Glu Gln Lys Asn Leu Ala Phe Gly Ala Ala Ala Ser Met Val		
370	375	380
His Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu Ser Glu Ala Pro		
385	390	395 400
Lys Tyr Ala Ser Val Ile Ala Glu Ile Leu Arg Glu Glu Thr Thr Lys		
405	410	415
Gln Ile Asn Ser Asn Ile Ser Arg Gln Ala Trp Asp Thr Leu Trp Pro		
420	425	430
Pro Glu Arg Lys Arg Gln Arg Ala Phe Phe Leu Phe Gly Leu Ala Leu		
435	440	445
Ile Val Gln Phe Asp Thr Glu Gly Ile Arg Ser Phe Phe Arg Thr Phe		
450	455	460
Phe Arg Leu Pro Lys Trp Met Trp Gln Gly Phe Leu Gly Ser Thr Leu		
465	470	475 480
Thr Ser Gly Asp Leu Val Leu Phe Ala Leu Tyr Met Phe Val Ile Ser		
485	490	495
Pro Asn Asn Leu Arg Lys Gly Leu Ile Asn His Leu Ile Ser Asp Pro		
500	505	510
Thr Gly Ala Thr Met Ile Lys Thr Tyr Leu Lys Val		
515	520	

<210> 50
 <211> 529
 <212> PRT
 <213> Adonis palaestina

<400> 50																
Met	Glu	Leu	Leu	Gly	Val	Arg	Asn	Leu	Ile	Ser	Ser	Cys	Pro	Val	Trp	
1					5					10				15		
Thr Phe Gly Thr Arg Asn Leu Ser Ser Ser Lys Leu Ala Tyr Asn Ile																
20 25 30																
His Arg Tyr Gly Ser Ser Cys Arg Val Asp Phe Gln Val Arg Ala Asp																
35 40 45																
Gly Gly Ser Gly Ser Arg Ser Ser Val Ala Tyr Lys Glu Gly Phe Val																
50 55 60																
Asp Glu Glu Asp Phe Ile Lys Ala Gly Gly Ser Glu Leu Leu Phe Val																
65 70 75 80																
Gln Met Gln Gln Thr Lys Ser Met Glu Lys Gln Ala Lys Leu Ala Asp																

85

90

95

Lys	Leu	Pro	Pro	Ile	Pro	Phe	Gly	Glu	Ser	Val	Met	Asp	Leu	Val	Val
100							105				110				
Ile	Gly	Cys	Gly	Pro	Ala	Gly	Leu	Ser	Leu	Ala	Ala	Glu	Ala	Ala	Lys
115							120				125				
Leu	Gly	Leu	Lys	Val	Gly	Leu	Ile	Gly	Pro	Asp	Leu	Pro	Phe	Thr	Asn
130							135				140				
Asn	Tyr	Gly	Val	Trp	Glu	Asp	Glu	Phe	Lys	Asp	Leu	Gly	Leu	Glu	Arg
145					150				155				160		
Cys	Ile	Glu	His	Ala	Trp	Lys	Asp	Thr	Ile	Val	Tyr	Leu	Asp	Asn	Asp
							165			170			175		
Ala	Pro	Val	Leu	Ile	Gly	Arg	Ala	Tyr	Gly	Arg	Val	Ser	Arg	His	Leu
							180			185			190		
Leu	His	Glu	Glu	Leu	Leu	Lys	Arg	Cys	Val	Glu	Ser	Gly	Val	Ser	Tyr
							195			200			205		
Leu	Asp	Ser	Lys	Val	Glu	Arg	Ile	Thr	Glu	Ala	Gly	Asp	Gly	His	Ser
							210			215			220		
Leu	Val	Val	Cys	Glu	Asn	Glu	Ile	Phe	Ile	Pro	Cys	Arg	Leu	Ala	Thr
							225			230			235		240
Val	Ala	Ser	Gly	Ala	Ala	Ser	Gly	Lys	Leu	Leu	Glu	Tyr	Glu	Val	Gly
							245			250			255		
Gly	Pro	Arg	Val	Cys	Val	Gln	Thr	Ala	Tyr	Gly	Val	Glu	Val	Glu	Val
							260			265			270		
Glu	Asn	Asn	Pro	Tyr	Asp	Pro	Asn	Leu	Met	Val	Phe	Met	Asp	Tyr	Arg
							275			280			285		
Asp	Tyr	Met	Gln	Gln	Lys	Leu	Gln	Cys	Ser	Glu	Glu	Glu	Tyr	Pro	Thr
							290			295			300		
Phe	Leu	Tyr	Val	Met	Pro	Met	Ser	Pro	Thr	Arg	Leu	Phe	Phe	Glu	Glu
							305			310			315		320
Thr	Cys	Leu	Ala	Ser	Lys	Asp	Ala	Met	Pro	Phe	Asp	Leu	Leu	Lys	Arg
							325			330			335		
Lys	Leu	Met	Ser	Arg	Leu	Lys	Thr	Leu	Gly	Ile	Gln	Val	Thr	Lys	Val
							340			345			350		
Tyr	Glu	Glu	Glu	Trp	Ser	Tyr	Ile	Pro	Val	Gly	Gly	Ser	Leu	Pro	Asn
							355			360			365		
Thr	Glu	Gln	Lys	Asn	Leu	Ala	Phe	Gly	Ala	Ala	Ser	Met	Val	His	
							370			375			380		
Pro	Ala	Thr	Gly	Tyr	Ser	Val	Val	Arg	Ser	Leu	Ser	Glu	Ala	Pro	Lys
							385			390			395		400
Tyr	Ala	Ser	Val	Ile	Ala	Lys	Ile	Leu	Lys	Gln	Asp	Asn	Ser	Ala	Tyr
							405			410			415		

Val Val Ser Gly Gln Ser Ser Ala Val Asn Ile Ser Met Gln Ala Trp
 420 425 430
 Ser Ser Leu Trp Pro Lys Glu Arg Lys Arg Gln Arg Ala Phe Phe Leu
 435 440 445
 Phe Gly Leu Glu Leu Ile Val Gln Leu Asp Ile Glu Ala Thr Arg Thr
 450 455 460
 Phe Phe Arg Thr Phe Phe Arg Leu Pro Thr Trp Met Trp Trp Gly Phe
 465 470 475 480
 Leu Gly Ser Ser Leu Ser Ser Phe Asp Leu Val Leu Phe Ser Met Tyr
 485 490 495
 Met Phe Val Leu Ala Pro Asn Ser Met Arg Met Ser Leu Val Arg His
 500 505 510
 Leu Leu Ser Asp Pro Ser Gly Ala Val Met Val Arg Ala Tyr Leu Glu
 515 520 525

Arg

<210> 51
 <211> 529
 <212> PRT
 <213> Adonis palaestina

<400> 51
 Met Glu Leu Leu Gly Val Arg Asn Leu Ile Ser Ser Cys Pro Val Trp
 1 5 10 15
 Thr Phe Gly Thr Arg Asn Leu Ser Ser Lys Leu Ala Tyr Asn Ile
 20 25 30
 His Arg Tyr Gly Ser Ser Cys Arg Val Asp Phe Gln Val Arg Ala Asp
 35 40 45
 Gly Gly Ser Gly Ser Arg Thr Ser Val Ala Tyr Lys Glu Gly Phe Val
 50 55 60
 Asp Glu Glu Asp Phe Ile Lys Ala Gly Ser Glu Leu Leu Phe Val
 65 70 75 80
 Gln Met Gln Gln Thr Lys Ser Met Glu Lys Gln Ala Lys Leu Ala Asp
 85 90 95
 Lys Leu Pro Pro Ile Pro Phe Gly Glu Ser Val Met Asp Leu Val Val
 100 105 110
 Ile Gly Cys Gly Pro Ala Gly Leu Ser Leu Ala Ala Glu Ala Ala Lys
 115 120 125
 Leu Gly Leu Lys Val Gly Leu Ile Gly Pro Asp Leu Pro Phe Thr Asn
 130 135 140
 Asn Tyr Gly Val Trp Glu Asp Glu Phe Lys Asp Leu Gly Leu Glu Arg
 145 150 155 160

Cys Ile Glu His Ala Trp Lys Asp Thr Ile Val Tyr Leu Asp Asn Asp
165 170 175

Ala Pro Val Leu Ile Gly Arg Ala Tyr Gly Arg Val Ser Arg His Leu
180 185 190

Leu His Glu Glu Leu Leu Lys Arg Cys Val Glu Ser Gly Val Ser Tyr
195 200 205

Leu Asn Ser Lys Val Glu Arg Ile Thr Glu Ala Gly Asp Gly His Ser
210 215 220

Leu Val Val Cys Glu Asn Asp Ile Phe Ile Pro Cys Arg Leu Ala Thr
225 230 235 240

Val Ala Ser Gly Ala Ala Ser Gly Lys Leu Leu Glu Tyr Glu Val Gly
245 250 255

Gly Pro Arg Val Cys Val Gln Thr Ala Tyr Gly Val Glu Val Glu Val
260 265 270

Glu Asn Asn Pro Tyr Asp Pro Asn Leu Met Val Phe Met Asp Tyr Arg
275 280 285

Asp Tyr Met Gln Gln Lys Leu Gln Cys Ser Glu Glu Glu Tyr Pro Thr
290 295 300

Phe Leu Tyr Val Met Pro Met Ser Pro Thr Arg Leu Phe Phe Glu Glu
305 310 315 320

Thr Cys Leu Ala Ser Lys Asp Ala Met Pro Phe Asp Leu Leu Lys Arg
325 330 335

Lys Leu Met Ser Arg Leu Lys Thr Leu Gly Ile Gln Val Thr Lys Ile
340 345 350

Tyr Glu Glu Glu Trp Ser Tyr Ile Pro Val Gly Gly Ser Leu Pro Asn
355 360 365

Thr Glu Gln Lys Asn Leu Ala Phe Gly Ala Ala Ala Ser Met Val His
370 375 380

Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu Ser Glu Ala Pro Lys
385 390 395 400

Tyr Ala Ser Val Ile Ala Lys Ile Leu Lys Gln Asp Asn Ser Ala Tyr
405 410 415

Val Val Ser Gly Gln Ser Ser Ala Val Asn Ile Ser Met Gln Ala Trp
420 425 430

Ser Ser Leu Trp Pro Lys Glu Arg Lys Arg Gln Arg Ala Phe Phe Leu
435 440 445

Phe Gly Leu Glu Leu Ile Val Gln Leu Asp Ile Glu Ala Thr Arg Thr
450 455 460

Phe Phe Arg Thr Phe Phe Arg Leu Pro Thr Trp Met Trp Trp Gly Phe
465 470 475 480

Leu Gly Ser Ser Leu Ser Ser Phe Asp Leu Val Leu Phe Ser Met Tyr

485

490

495

Met Phe Val Leu Ala Pro Asn Ser Met Arg Met Ser Leu Val Arg His
 500 505 510

Leu Leu Ser Asp Pro Ser Gly Ala Val Met Val Lys Ala Tyr Leu Glu
 515 520 525

Arg

<210> 52
 <211> 533
 <212> PRT
 <213> Lettuce

<400> 52
 Met Glu Cys Phe Gly Ala Arg Asn Met Thr Ala Thr Met Ala Val Phe
 1 5 10 15

Thr Cys Pro Arg Phe Thr Asp Cys Asn Ile Arg His Lys Phe Ser Leu
 20 25 30

Leu Lys Gln Arg Arg Phe Thr Asn Leu Ser Ala Ser Ser Ser Leu Arg
 35 40 45

Gln Ile Lys Cys Ser Ala Lys Ser Asp Arg Cys Val Val Asp Lys Gln
 50 55 60

Gly Ile Ser Val Ala Asp Glu Glu Asp Tyr Val Lys Ala Gly Gly Ser
 65 70 75 80

Glu Leu Phe Phe Val Gln Met Gln Arg Thr Lys Ser Met Glu Ser Gln
 85 90 95

Ser Lys Leu Ser Glu Lys Leu Ala Gln Ile Pro Ile Gly Asn Cys Ile
 100 105 110

Leu Asp Leu Val Val Ile Gly Cys Gly Pro Ala Gly Leu Ala Leu Ala
 115 120 125

Ala Glu Ser Ala Lys Leu Gly Leu Asn Val Gly Leu Ile Gly Pro Asp
 130 135 140

Leu Pro Phe Thr Asn Asn Tyr Gly Val Trp Gln Asp Glu Phe Ile Gly
 145 150 155 160

Leu Gly Leu Glu Gly Cys Ile Glu His Ser Trp Lys Asp Thr Leu Val
 165 170 175

Tyr Leu Asp Asp Ala Asp Pro Ile Arg Ile Gly Arg Ala Tyr Gly Arg
 180 185 190

Val His Arg Asp Leu Leu His Glu Glu Leu Leu Arg Arg Cys Val Glu
 195 200 205

Ser Gly Val Ser Tyr Leu Ser Ser Lys Val Glu Arg Ile Thr Glu Ala
 210 215 220

Pro Asn Gly Tyr Ser Leu Ile Glu Cys Glu Gly Asn Ile Thr Ile Pro

225	230	235	240
Cys Arg Leu Ala Thr Val Ala Ser Gly Ala Ala Ser Gly Lys Phe Leu			
245	250	255	
Glu Tyr Glu Leu Gly Gly Pro Arg Val Cys Val Gln Thr Ala Tyr Gly			
260	265	270	
Ile Glu Val Glu Val Glu Asn Asn Pro Tyr Asp Pro Asp Leu Met Val			
275	280	285	
Phe Met Asp Tyr Arg Asp Phe Ser Lys His Lys Pro Glu Ser Leu Glu			
290	295	300	
Ala Lys Tyr Pro Thr Phe Leu Tyr Val Met Ala Met Ser Pro Thr Lys			
305	310	315	320
Ile Phe Phe Glu Glu Thr Cys Leu Ala Ser Arg Glu Ala Met Pro Phe			
325	330	335	
Asn Leu Leu Lys Ser Lys Leu Met Ser Arg Leu Lys Ala Met Gly Ile			
340	345	350	
Arg Ile Thr Arg Thr Tyr Glu Glu Glu Trp Ser Tyr Ile Pro Val Gly			
355	360	365	
Gly Ser Leu Pro Asn Thr Glu Gln Lys Asn Leu Ala Phe Gly Ala Ala			
370	375	380	
Ala Ser Met Val His Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu			
385	390	395	400
Ser Glu Ala Pro Asn Tyr Ala Ala Val Ile Ala Lys Ile Leu Arg Gln			
405	410	415	
Asp Gln Ser Lys Glu Met Ile Ser Leu Gly Lys Tyr Thr Asn Ile Ser			
420	425	430	
Lys Gln Ala Trp Glu Thr Leu Trp Pro Leu Glu Arg Lys Arg Gln Arg			
435	440	445	
Ala Phe Phe Leu Phe Gly Leu Ser His Ile Val Leu Met Asp Leu Glu			
450	455	460	
Gly Thr Arg Thr Phe Phe Arg Thr Phe Phe Arg Leu Pro Lys Trp Met			
465	470	475	480
Trp Trp Gly Phe Leu Gly Ser Ser Leu Ser Ser Thr Asp Leu Ile Ile			
485	490	495	
Phe Ala Leu Tyr Met Phe Val Ile Ala Pro His Ser Leu Arg Met Glu			
500	505	510	
Leu Val Arg His Leu Leu Ser Asp Pro Thr Gly Ala Thr Met Val Lys			
515	520	525	
Ala Tyr Leu Thr Ile			
530			

<211> 526
<212> PRT
<213> Tomato

<400> 53
Met Glu Cys Val Gly Val Gln Asn Val Gly Ala Met Ala Val Leu Thr
1 5 10 15
Arg Pro Arg Leu Asn Arg Trp Ser Gly Gly Glu Leu Cys Gln Glu Lys
20 25 30
Ser Ile Phe Leu Ala Tyr Glu Gln Tyr Glu Ser Lys Cys Asn Ser Ser
35 40 45
Ser Gly Ser Asp Ser Cys Val Val Asp Lys Glu Asp Phe Ala Asp Glu
50 55 60
Glu Asp Tyr Ile Lys Ala Gly Gly Ser Gln Leu Val Phe Val Gln Met
65 70 75 80
Gln Gln Lys Lys Asp Met Asp Gln Gln Ser Lys Leu Ser Asp Glu Leu
85 90 95
Arg Gln Ile Ser Ala Gly Gln Thr Val Leu Asp Leu Val Val Ile Gly
100 105 110
Cys Gly Pro Ala Gly Leu Ala Leu Ala Ala Glu Ser Ala Lys Leu Gly
115 120 125
Leu Asn Val Gly Leu Val Gly Pro Asp Leu Pro Phe Thr Asn Asn Tyr
130 135 140
Gly Val Trp Glu Asp Glu Phe Lys Asp Leu Gly Leu Gln Ala Cys Ile
145 150 155 160
Glu His Val Trp Arg Asp Thr Ile Val Tyr Leu Asp Asp Asp Glu Pro
165 170 175
Ile Leu Ile Gly Arg Ala Tyr Gly Arg Val Ser Arg His Phe Leu His
180 185 190
Glu Glu Leu Leu Lys Arg Cys Val Glu Ala Gly Val Leu Tyr Leu Asn
195 200 205
Ser Lys Val Asp Arg Ile Val Glu Ala Thr Asn Gly Gln Ser Leu Val
210 215 220
Glu Cys Glu Gly Asp Val Val Ile Pro Cys Arg Phe Val Thr Val Ala
225 230 235 240
Ser Gly Ala Ala Ser Gly Lys Phe Leu Gln Tyr Glu Leu Gly Ser Pro
245 250 255
Arg Val Ser Val Gln Thr Ala Tyr Gly Val Glu Val Glu Val Asp Asn
260 265 270
Asn Pro Phe Asp Pro Ser Leu Met Val Phe Met Asp Tyr Arg Asp Tyr
275 280 285
Leu Arg His Asp Ala Gln Ser Leu Glu Ala Lys Tyr Pro Thr Phe Leu
290 295 300

Tyr Ala Met Pro Met Ser Pro Thr Arg Val Phe Phe Glu Glu Thr Cys
 305 310 315 320
 Leu Ala Ser Lys Asp Ala Met Pro Phe Asp Leu Leu Lys Lys Lys Leu
 325 330 335
 Met Leu Arg Leu Asn Thr Leu Gly Val Arg Ile Lys Glu Ile Tyr Glu
 340 345 350
 Glu Glu Trp Ser Tyr Ile Pro Val Gly Gly Ser Leu Pro Asn Thr Glu
 355 360 365
 Gln Lys Thr Leu Ala Phe Gly Ala Ala Ala Ser Met Val His Pro Ala
 370 375 380
 Thr Gly Tyr Ser Val Val Arg Ser Leu Ser Glu Ala Pro Lys Cys Ala
 385 390 395 400
 Ser Val Leu Ala Asn Ile Leu Arg Gln His Tyr Ser Lys Asn Met Leu
 405 410 415
 Thr Ser Ser Ser Ile Pro Ser Ile Ser Thr Gln Ala Trp Asn Thr Leu
 420 425 430
 Trp Pro Gln Glu Arg Lys Arg Gln Arg Ser Phe Phe Leu Phe Gly Leu
 435 440 445
 Ala Leu Ile Leu Gln Leu Asp Ile Glu Gly Ile Arg Ser Phe Phe Arg
 450 455 460
 Ala Phe Phe Arg Val Pro Lys Trp Met Trp Gln Gly Phe Leu Gly Ser
 465 470 475 480
 Ser Leu Ser Ser Ala Asp Leu Met Leu Phe Ala Phe Tyr Met Phe Ile
 485 490 495
 Ile Ala Pro Asn Asp Met Arg Lys Gly Leu Ile Arg His Leu Leu Ser
 500 505 510
 Asp Pro Thr Gly Ala Thr Leu Ile Arg Thr Tyr Leu Thr Phe
 515 520 525

<210> 54
 <211> 516
 <212> PRT
 <213> Tagetes erecta

<400> 54
 Met Ser Met Arg Ala Gly His Met Thr Ala Thr Met Ala Ala Phe Thr
 1 5 10 15
 Cys Pro Arg Phe Met Thr Ser Ile Arg Tyr Thr Lys Gln Ile Lys Cys
 20 25 30
 Asn Ala Ala Lys Ser Gln Leu Val Val Lys Gln Glu Ile Glu Glu Glu
 35 40 45
 Glu Asp Tyr Val Lys Ala Gly Gly Ser Glu Leu Leu Phe Val Gln Met
 50 55 60

Gln Gln Asn Lys Ser Met Asp Ala Gln Ser Ser Leu Ser Gln Lys Leu
 65 70 75 80

Pro Arg Val Pro Ile Gly Gly Gly Asp Ser Asn Cys Ile Leu Asp
 85 90 95

Leu Val Val Ile Gly Cys Gly Pro Ala Gly Leu Ala Leu Ala Gly Glu
 100 105 110

Ser Ala Lys Leu Gly Leu Asn Val Ala Leu Ile Gly Pro Asp Leu Pro
 115 120 125

Phe Thr Asn Asn Tyr Gly Val Trp Glu Asp Glu Phe Ile Gly Leu Gly
 130 135 140

Leu Glu Gly Cys Ile Glu His Val Trp Arg Asp Thr Val Val Tyr Leu
 145 150 155 160

Asp Asp Asn Asp Pro Ile Leu Ile Gly Arg Ala Tyr Gly Arg Val Ser
 165 170 175

Arg Asp Leu Leu His Glu Glu Leu Leu Thr Arg Cys Met Glu Ser Gly
 180 185 190

Val Ser Tyr Leu Ser Ser Lys Val Glu Arg Ile Thr Glu Ala Pro Asn
 195 200 205

Gly Leu Ser Leu Ile Glu Cys Glu Gly Asn Ile Thr Ile Pro Cys Arg
 210 215 220

Leu Ala Thr Val Ala Ser Gly Ala Ala Ser Gly Lys Leu Leu Gln Tyr
 225 230 235 240

Glu Leu Gly Gly Pro Arg Val Cys Val Gln Thr Ala Tyr Gly Ile Glu
 245 250 255

Val Glu Val Glu Ser Ile Pro Tyr Asp Pro Ser Leu Met Val Phe Met
 260 265 270

Asp Tyr Arg Asp Tyr Thr Lys His Lys Ser Gln Ser Leu Glu Ala Gln
 275 280 285

Tyr Pro Thr Phe Leu Tyr Val Met Pro Met Ser Pro Thr Lys Val Phe
 290 295 300

Phe Glu Glu Thr Cys Leu Ala Ser Lys Glu Ala Met Pro Phe Glu Leu
 305 310 315 320

Leu Lys Thr Lys Leu Met Ser Arg Leu Lys Thr Met Gly Ile Arg Ile
 325 330 335

Thr Lys Thr Tyr Glu Glu Trp Ser Tyr Ile Pro Val Gly Gly Ser
 340 345 350

Leu Pro Asn Thr Glu Gln Lys Asn Leu Ala Phe Gly Ala Ala Ala Ser
 355 360 365

Met Val His Pro Ala Thr Gly Tyr Ser Val Val Arg Ser Leu Ser Glu
 370 375 380

Ala Pro Asn Tyr Ala Ala Val Ile Ala Lys Ile Leu Gly Lys Gly Asn

385	390	395	400
Ser Lys Gln Met Leu Asp His Gly Arg Tyr Thr Thr Asn Ile Ser Lys			
405	410	415	
Gln Ala Trp Glu Thr Leu Trp Pro Leu Glu Arg Lys Arg Gln Arg Ala			
420	425	430	
Phe Phe Leu Phe Gly Leu Ala Leu Ile Val Gln Met Asp Ile Glu Gly			
435	440	445	
Thr Arg Thr Phe Phe Arg Thr Phe Phe Arg Leu Pro Thr Trp Met Trp			
450	455	460	
Trp Gly Phe Leu Gly Ser Ser Leu Ser Ser Thr Asp Leu Ile Ile Phe			
465	470	475	480
Ala Phe Tyr Met Phe Ile Ile Ala Pro His Ser Leu Arg Met Gly Leu			
485	490	495	
Val Arg His Leu Leu Ser Asp Pro Thr Gly Gly Thr Met Leu Lys Ala			
500	505	510	
Tyr Leu Thr Ile			
515			

<210> 55
 <211> 501
 <212> PRT
 <213> *Arabidopsis thaliana*

<400> 55			
Met Asp Thr Leu Leu Lys Thr Pro Asn Lys Leu Asp Phe Phe Ile Pro			
1	5	10	15
Gln Phe His Gly Phe Glu Arg Leu Cys Ser Asn Asn Pro Tyr His Ser			
20	25	30	
Arg Val Arg Leu Gly Val Lys Lys Arg Ala Ile Lys Ile Val Ser Ser			
35	40	45	
Val Val Ser Gly Ser Ala Ala Leu Leu Asp Leu Val Pro Glu Thr Lys			
50	55	60	
Lys Glu Asn Leu Asp Phe Glu Leu Pro Leu Tyr Asp Thr Ser Lys Ser			
65	70	75	80
Gln Val Val Asp Leu Ala Ile Val Gly Gly Pro Ala Gly Leu Ala			
85	90	95	
Val Ala Gln Gln Val Ser Glu Ala Gly Leu Ser Val Cys Ser Ile Asp			
100	105	110	
Pro Ser Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly Val Trp Val Asp			
115	120	125	
Glu Phe Glu Ala Met Asp Leu Leu Asp Cys Leu Asp Thr Thr Trp Ser			
130	135	140	
Gly Ala Val Val Tyr Val Asp Glu Gly Val Lys Lys Asp Leu Ser Arg			

145	150	155	160
Pro Tyr Gly Arg Val Asn Arg Lys Gln Leu Lys Ser Lys Met Leu Gln			
165	170	175	
Lys Cys Ile Thr Asn Gly Val Lys Phe His Gln Ser Lys Val Thr Asn			
180	185	190	
Val Val His Glu Glu Ala Asn Ser Thr Val Val Cys Ser Asp Gly Val			
195	200	205	
Lys Ile Gln Ala Ser Val Val Leu Asp Ala Thr Gly Phe Ser Arg Cys			
210	215	220	
Leu Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr Gln Val Ala Tyr			
225	230	235	240
Gly Ile Val Ala Glu Val Asp Gly His Pro Phe Asp Val Asp Lys Met			
245	250	255	
Val Phe Met Asp Trp Arg Asp Lys His Leu Asp Ser Tyr Pro Glu Leu			
260	265	270	
Lys Glu Arg Asn Ser Lys Ile Pro Thr Phe Leu Tyr Ala Met Pro Phe			
275	280	285	
Ser Ser Asn Arg Ile Phe Leu Glu Glu Thr Ser Leu Val Ala Arg Pro			
290	295	300	
Gly Leu Arg Met Glu Asp Ile Gln Glu Arg Met Ala Ala Arg Leu Lys			
305	310	315	320
His Leu Gly Ile Asn Val Lys Arg Ile Glu Glu Asp Glu Arg Cys Val			
325	330	335	
Ile Pro Met Gly Gly Pro Leu Pro Val Leu Pro Gln Arg Val Val Gly			
340	345	350	
Ile Gly Gly Thr Ala Gly Met Val His Pro Ser Thr Gly Tyr Met Val			
355	360	365	
Ala Arg Thr Leu Ala Ala Pro Ile Val Ala Asn Ala Ile Val Arg			
370	375	380	
Tyr Leu Gly Ser Pro Ser Ser Asn Ser Leu Arg Gly Asp Gln Leu Ser			
385	390	395	400
Ala Glu Val Trp Arg Asp Leu Trp Pro Ile Glu Arg Arg Arg Gln Arg			
405	410	415	
Glu Phe Phe Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu Asp			
420	425	430	
Ala Thr Arg Arg Phe Phe Asp Ala Phe Phe Asp Leu Gln Pro His Tyr			
435	440	445	
Trp His Gly Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu Leu Val			
450	455	460	
Phe Gly Leu Ser Leu Phe Ser His Ala Ser Asn Thr Ser Arg Leu Glu			
465	470	475	480

Ile Met Thr Lys Gly Thr Val Pro Leu Ala Lys Met Ile Asn Asn Leu
485 490 495

Val Gln Asp Arg Asp
500

<210> 56
<211> 502
<212> PRT
<213> Adonis palaestina

<400> 56
Met Asp Thr Leu Leu Arg Thr His Asn Lys Leu Glu Leu Leu Pro Thr
1 5 10 15

Leu His Gly Phe Ala Glu Lys Gln His Leu Val Ser Thr Ser Lys Leu
20 25 30

Gln Asn Gln Val Phe Arg Ile Ala Ser Arg Asn Ile His Pro Cys Arg
35 40 45

Asn Gly Thr Val Lys Ala Arg Gly Ser Ala Leu Leu Glu Leu Val Pro
50 55 60

Glu Thr Lys Lys Glu Asn Leu Glu Phe Asp Leu Pro Ala Tyr Asp Pro
65 70 75 80

Ser Arg Gly Ile Val Val Asp Leu Ala Val Val Gly Gly Pro Ala
85 90 95

Gly Leu Ala Ile Ala Gln Gln Val Ser Glu Ala Gly Leu Leu Val Cys
100 105 110

Ser Ile Asp Pro Ser Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly Val
115 120 125

Trp Val Asp Glu Phe Glu Ala Met Asp Leu Leu Asp Cys Leu Asp Thr
130 135 140

Thr Trp Ser Gly Ala Val Val Tyr Thr Asp Asp Asn Ser Lys Lys Tyr
145 150 155 160

Leu Asp Arg Pro Tyr Gly Arg Val Asn Arg Lys Gln Leu Lys Ser Lys
165 170 175

Met Leu Gln Lys Cys Val Thr Asn Gly Val Lys Phe His Gln Ala Lys
180 185 190

Val Ile Lys Val Ile His Glu Glu Ser Lys Ser Leu Leu Ile Cys Asn
195 200 205

Asp Gly Ile Thr Ile Asn Ala Thr Val Val Leu Asp Ala Thr Gly Phe
210 215 220

Ser Arg Cys Leu Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr Gln
225 230 235 240

Val Ala Tyr Gly Ile Met Ala Glu Val Glu Glu His Pro Phe Asp Leu
245 250 255

Asp Lys Met Leu Phe Met Asp Trp Arg Asp Ser His Leu Asn Glu Lys
260 265 270

Leu Glu Leu Lys Asp Lys Asn Arg Lys Ile Pro Thr Phe Leu Tyr Ala
275 280 285

Met Pro Phe Ser Ser Thr Lys Ile Phe Leu Glu Glu Thr Ser Leu Val
290 295 300

Ala Arg Pro Gly Leu Arg Phe Glu Asp Ile Gln Glu Arg Met Val Ala
305 310 315 320

Arg Leu Lys His Leu Gly Ile Lys Val Lys Ser Ile Glu Glu Asp Glu
325 330 335

Arg Cys Val Ile Pro Met Gly Gly Pro Leu Pro Val Leu Pro Gln Arg
340 345 350

Val Val Gly Ile Gly Gly Thr Ala Gly Met Val His Pro Ser Thr Gly
355 360 365

Tyr Met Val Ala Arg Thr Leu Ala Ala Ala Pro Val Val Ala Lys Ser
370 375 380

Ile Val Gln Tyr Leu Gly Ser Asp Arg Ser Leu Ser Gly Asn Glu Leu
385 390 395 400

Ser Ala Glu Val Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Gln
405 410 415

Arg Glu Phe Phe Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu
420 425 430

Gln Gly Thr Arg Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro His
435 440 445

Tyr Trp His Gly Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu Leu
450 455 460

Phe Phe Gly Leu Ser Leu Phe Ser His Ala Ser Asn Ala Ser Arg Ile
465 470 475 480

Glu Ile Met Ala Lys Gly Thr Val Pro Leu Val Asn Met Met Asn Asn
485 490 495

Leu Ile Gln Asp Thr Asp
500

<210> 57
<211> 498
<212> PRT
<213> Pepper

<400> 57
Met Asp Thr Leu Leu Arg Thr Pro Asn Asn Leu Glu Phe Leu His Gly
1 5 10 15

Phe Gly Val Lys Val Ser Ala Phe Ser Ser Val Lys Ser Gln Lys Phe
20 25 30

Gly Ala Lys Lys Phe Cys Glu Gly Leu Gly Ser Arg Ser Val Cys Val
 35 40 45
 Lys Ala Ser Ser Ser Ala Leu Leu Glu Leu Val Pro Glu Thr Lys Lys
 50 55 60
 Glu Asn Leu Asp Phe Glu Leu Pro Met Tyr Asp Pro Ser Lys Gly Val
 65 70 75 80
 Val Val Asp Leu Ala Val Val Gly Gly Pro Ala Gly Leu Ala Val
 85 90 95
 Ala Gln Gln Val Ser Glu Ala Gly Leu Ser Val Cys Ser Ile Asp Pro
 100 105 110
 Asn Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly Val Trp Val Asp Glu
 115 120 125
 Phe Glu Ala Met Asp Leu Leu Asp Cys Leu Asp Ala Thr Trp Ser Gly
 130 135 140
 Ala Ala Val Tyr Ile Asp Asp Lys Thr Thr Lys Asp Leu Asn Arg Pro
 145 150 155 160
 Tyr Gly Arg Val Asn Arg Lys Gln Leu Lys Ser Lys Met Met Gln Lys
 165 170 175
 Cys Ile Leu Asn Gly Val Lys Phe His Gln Ala Lys Val Ile Lys Val
 180 185 190
 Ile His Glu Glu Ser Lys Ser Met Leu Ile Cys Asn Asp Gly Ile Thr
 195 200 205
 Ile Gln Ala Thr Val Val Leu Asp Ala Thr Gly Phe Ser Arg Ser Leu
 210 215 220
 Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr Gln Val Ala Tyr Gly
 225 230 235 240
 Ile Leu Ala Glu Val Glu Glu His Pro Phe Asp Val Asn Lys Met Val
 245 250 255
 Phe Met Asp Trp Arg Asp Ser His Leu Lys Asn Asn Val Glu Leu Lys
 260 265 270
 Glu Arg Asn Ser Arg Ile Pro Thr Phe Leu Tyr Ala Met Pro Phe Ser
 275 280 285
 Ser Asn Arg Ile Phe Leu Glu Glu Thr Ser Leu Val Ala Arg Pro Gly
 290 295 300
 Leu Gly Met Asp Asp Ile Gln Glu Arg Met Val Ala Arg Leu Ser His
 305 310 315 320
 Leu Gly Ile Lys Val Lys Ser Ile Glu Glu Asp Glu His Cys Val Ile
 325 330 335
 Pro Met Gly Gly Pro Leu Pro Val Leu Pro Gln Arg Val Val Gly Ile
 340 345 350
 Gly Gly Thr Ala Gly Met Val His Pro Ser Thr Gly Tyr Met Val Ala

355

360

365

Arg Thr Leu Ala Ala Ala Pro Val Val Ala Asn Ala Ile Ile Gln Tyr
 370 375 380

Leu Ser Ser Glu Arg Ser His Ser Gly Asp Glu Leu Ser Ala Ala Val
 385 390 395 400

Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Arg Gln Arg Glu Phe Phe
 405 410 415

Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu Pro Ala Thr Arg
 420 425 430

Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro Arg Tyr Trp His Gly
 435 440 445

Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu Ile Val Phe Gly Leu
 450 455 460

Ser Leu Phe Ser His Ala Ser Asn Thr Ser Arg Leu Glu Ile Met Thr
 465 470 475 480

Lys Gly Thr Leu Pro Leu Val His Met Ile Asn Asn Leu Leu Gln Asp
 485 490 495

Lys Glu

<210> 58

<211> 500

<212> PRT

<213> Tomato

<400> 58

Met Asp Thr Leu Leu Lys Thr Pro Asn Asn Leu Glu Phe Leu Asn Pro
 1 5 10 15

His His Gly Phe Ala Val Lys Ala Ser Thr Phe Arg Ser Glu Lys His
 20 25 30

His Asn Phe Gly Ser Arg Lys Phe Cys Glu Thr Leu Gly Arg Ser Val
 35 40 45

Cys Val Lys Gly Ser Ser Ser Ala Leu Leu Glu Leu Val Pro Glu Thr
 50 55 60

Lys Lys Glu Asn Leu Asp Phe Glu Leu Pro Met Tyr Asp Pro Ser Lys
 65 70 75 80

Gly Val Val Val Asp Leu Ala Val Val Gly Gly Pro Ala Gly Leu
 85 90 95

Ala Val Ala Gln Gln Val Ser Glu Ala Gly Leu Ser Val Cys Ser Ile
 100 105 110

Asp Pro Asn Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly Val Trp Val
 115 120 125

Asp Glu Phe Glu Ala Met Asp Leu Leu Asp Cys Leu Asp Ala Thr Trp

130 135 140

Ser Gly Ala Ala Val Tyr Ile Asp Asp Asn Thr Ala Lys Asp Leu His
145 150 155 160

Arg Pro Tyr Gly Arg Val Asn Arg Lys Gln Leu Lys Ser Lys Met Met
165 170 175

Gln Lys Cys Ile Met Asn Gly Val Lys Phe His Gln Ala Lys Val Ile
180 185 190

Lys Val Ile His Glu Glu Ser Lys Ser Met Leu Ile Cys Asn Asp Gly
195 200 205

Ile Thr Ile Gln Ala Thr Val Val Leu Asp Ala Thr Gly Phe Ser Arg
210 215 220

Ser Leu Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr Gln Val Ala
225 230 235 240

Tyr Gly Ile Leu Ala Glu Val Glu Glu His Pro Phe Asp Val Asn Lys
245 250 255

Met Val Phe Met Asp Trp Arg Asp Ser His Leu Lys Asn Asn Thr Asp
260 265 270

Leu Lys Glu Arg Asn Ser Arg Ile Pro Thr Phe Leu Tyr Ala Met Pro
275 280 285

Phe Ser Ser Asn Arg Ile Phe Leu Glu Glu Thr Ser Leu Val Ala Arg
290 295 300

Pro Gly Leu Arg Ile Asp Asp Ile Gln Glu Arg Met Val Ala Arg Leu
305 310 315 320

Asn His Leu Gly Ile Lys Val Lys Ser Ile Glu Glu Asp Glu His Cys
325 330 335

Leu Ile Pro Met Gly Gly Pro Leu Pro Val Leu Pro Gln Arg Val Val
340 345 350

Gly Ile Gly Gly Thr Ala Gly Met Val His Pro Ser Thr Gly Tyr Met
355 360 365

Val Ala Arg Thr Leu Ala Ala Ala Pro Val Val Ala Asn Ala Ile Ile
370 375 380

Gln Tyr Leu Gly Ser Glu Arg Ser His Ser Gly Asn Glu Leu Ser Thr
385 390 395 400

Ala Val Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Arg Gln Arg Glu
405 410 415

Phe Phe Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu Pro Ala
420 425 430

Thr Arg Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro Arg Tyr Trp
435 440 445

His Gly Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu Ile Val Phe
450 455 460

Gly Leu Ser Leu Phe Ser His Ala Ser Asn Thr Ser Arg Phe Glu Ile
465 470 475 480

Met Thr Lys Gly Thr Val Pro Leu Val Asn Met Ile Asn Asn Leu Leu
485 490 495

Gln Asp Lys Glu
500

<210> 59
<211> 500
<212> PRT
<213> Tobacco

<400> 59
Met Asp Thr Leu Leu Lys Thr Pro Asn Lys Leu Glu Phe Leu His Pro
1 5 10 15

Val His Gly Phe Ser Val Lys Ala Ser Ser Phe Asn Ser Val Lys Pro
20 25 30

His Lys Phe Gly Ser Arg Lys Ile Cys Glu Asn Trp Gly Lys Gly Val
35 40 45

Cys Val Lys Ala Lys Ser Ser Ala Leu Leu Glu Leu Val Pro Glu Thr
50 55 60

Lys Lys Glu Asn Leu Asp Phe Glu Leu Pro Met Tyr Asp Pro Ser Lys
65 70 75 80

Gly Leu Val Val Asp Leu Ala Val Val Gly Gly Gly Pro Ala Gly Leu
85 90 95

Ala Val Ala Gln Gln Val Ser Glu Ala Gly Leu Ser Val Val Ser Ile
100 105 110

Asp Pro Ser Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly Val Trp Val
115 120 125

Asp Glu Phe Glu Ala Met Asp Leu Leu Asp Cys Leu Asp Ala Thr Trp
130 135 140

Ser Gly Thr Val Val Tyr Ile Asp Asp Asn Thr Thr Lys Asp Leu Asp
145 150 155 160

Arg Pro Tyr Gly Arg Val Asn Arg Lys Gln Leu Lys Ser Lys Met Met
165 170 175

Gln Lys Cys Ile Leu Asn Gly Val Lys Phe His His Ala Lys Val Ile
180 185 190

Lys Val Ile His Glu Glu Ala Lys Ser Met Leu Ile Cys Asn Asp Gly
195 200 205

Val Thr Ile Gln Ala Thr Val Val Leu Asp Ala Thr Gly Phe Ser Arg
210 215 220

Cys Leu Val Gln Tyr Asp Lys Pro Tyr Lys Pro Gly Tyr Gln Val Ala
225 230 235 240

Tyr Gly Ile Leu Ala Glu Val Glu Glu His Pro Phe Asp Thr Ser Lys
 245 250 255
 Met Val Leu Met Asp Trp Arg Asp Ser His Leu Gly Asn Asn Met Glu
 260 265 270
 Leu Lys Glu Arg Asn Arg Lys Val Pro Thr Phe Leu Tyr Ala Met Pro
 275 280 285
 Phe Ser Ser Asn Lys Ile Phe Leu Glu Glu Thr Ser Leu Val Ala Arg
 290 295 300
 Pro Gly Leu Arg Met Asp Asp Ile Gln Glu Arg Met Val Ala Arg Leu
 305 310 315 320
 Asn His Leu Gly Ile Lys Val Lys Ser Ile Glu Glu Asp Glu His Cys
 325 330 335
 Val Ile Pro Met Gly Gly Ser Leu Pro Val Ile Pro Gln Arg Val Val
 340 345 350
 Gly Thr Gly Gly Thr Ala Gly Leu Val His Pro Ser Thr Gly Tyr Met
 355 360 365
 Val Ala Arg Thr Leu Ala Ala Ala Pro Val Val Ala Asn Ala Ile Ile
 370 375 380
 His Tyr Leu Gly Ser Glu Lys Asp Leu Leu Gly Asn Glu Leu Ser Ala
 385 390 395 400
 Ala Val Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Arg Gln Arg Glu
 405 410 415
 Phe Phe Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu Pro Ala
 420 425 430
 Thr Arg Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro Arg Tyr Trp
 435 440 445
 His Gly Phe Leu Ser Ser Arg Leu Tyr Leu Pro Glu Leu Ile Phe Phe
 450 455 460
 Gly Leu Ser Leu Phe Ser Arg Ala Ser Asn Thr Ser Arg Ile Glu Ile
 465 470 475 480
 Met Thr Lys Gly Thr Leu Pro Leu Val Asn Met Ile Asn Asn Leu Leu
 485 490 495
 Gln Asp Thr Glu
 500

<210> 60
 <211> 511
 <212> PRT
 <213> Tagetes erecta

<400> 60
 Met Asp Thr Phe Leu Arg Thr Tyr Asn Ser Phe Glu Phe Val His Pro
 1 5 10 15

Ser Asn Lys Phe Ala Gly Asn Leu Asn Asn Leu Asn Gln Leu Asn Gln
 20 25 30

Ser Lys Ser Gln Phe Gln Asp Phe Arg Phe Gly Pro Lys Lys Ser Gln
 35 40 45

Phe Lys Leu Gly Gln Lys Tyr Cys Val Lys Ala Ser Ser Ser Ala Leu
 50 55 60

Leu Glu Leu Val Pro Glu Ile Lys Lys Glu Asn Leu Asp Phe Asp Leu
 65 70 75 80

Pro Met Tyr Asp Pro Ser Arg Asn Val Val Val Asp Leu Val Val Val
 85 90 95

Gly Gly Gly Pro Ser Gly Leu Ala Val Ala Gln Gln Val Ser Glu Ala
 100 105 110

Gly Leu Thr Val Cys Ser Ile Asp Pro Ser Pro Lys Leu Ile Trp Pro
 115 120 125

Asn Asn Tyr Gly Val Trp Val Asp Glu Phe Glu Ala Met Asp Leu Leu
 130 135 140

Asp Cys Leu Asp Thr Thr Trp Ser Ser Ala Val Val Tyr Ile Asp Glu
 145 150 155 160

Lys Ser Thr Lys Ser Leu Asn Arg Pro Tyr Ala Arg Val Asn Arg Lys
 165 170 175

Gln Leu Lys Thr Lys Met Leu Gln Lys Cys Ile Ala Asn Gly Val Lys
 180 185 190

Phe His Gln Ala Lys Val Ile Lys Val Ile His Glu Glu Leu Lys Ser
 195 200 205

Leu Leu Ile Cys Asn Asp Gly Val Thr Ile Gln Ala Thr Leu Val Leu
 210 215 220

Asp Ala Thr Gly Phe Ser Arg Ser Leu Val Gln Tyr Asp Lys Pro Tyr
 225 230 235 240

Asn Pro Gly Tyr Gln Val Ala Tyr Gly Ile Leu Ala Glu Val Glu Glu
 245 250 255

His Pro Phe Asp Val Asp Lys Met Leu Phe Met Asp Trp Arg Asp Ser
 260 265 270

His Leu Asp Gln Asn Leu Glu Ile Lys Ala Arg Asn Ser Arg Ile Pro
 275 280 285

Thr Phe Leu Tyr Ala Met Pro Phe Ser Ser Thr Arg Ile Phe Leu Glu
 290 295 300

Glu Thr Ser Leu Val Ala Arg Pro Gly Leu Lys Met Glu Asp Ile Gln
 305 310 315 320

Glu Arg Met Ala Tyr Arg Leu Lys His Leu Gly Ile Lys Val Lys Ser
 325 330 335

Ile Glu Glu Asp Glu Arg Cys Val Ile Pro Met Gly Gly Pro Leu Pro

340

345

350

Val Leu Pro Gln Arg Val Leu Gly Ile Gly Gly Thr Ala Gly Met Val
 355 360 365

His Pro Ser Thr Gly Tyr Met Val Ala Arg Thr Leu Ala Ala Ala Pro
 370 375 380

Ile Val Ala Lys Ser Ile Ile Arg Tyr Leu Asn Asn Glu Lys Ser Met
 385 390 395 400

Val Ala Asp Val Thr Gly Asp Asp Leu Ala Ala Gly Ile Trp Arg Glu
 405 410 415

Leu Trp Pro Ile Glu Arg Arg Gln Arg Glu Phe Phe Cys Phe Gly
 420 425 430

Met Asp Ile Leu Leu Lys Leu Asp Leu Glu Gly Thr Arg Arg Phe Phe
 435 440 445

Asp Ala Phe Phe Asp Leu Glu Pro Arg Tyr Trp His Gly Phe Leu Ser
 450 455 460

Ser Arg Leu Phe Leu Pro Glu Leu Val Thr Phe Gly Leu Ser Leu Phe
 465 470 475 480

Gly His Ala Ser Asn Thr Cys Arg Val Glu Ile Met Ala Lys Gly Thr
 485 490 495

Leu Pro Leu Ala Thr Met Ile Gly Asn Leu Val Arg Asp Arg Glu
 500 505 510

<210> 61

<211> 503

<212> PRT

<213> Daffodil

<400> 61

Met Asp Thr Leu Leu Arg Thr His Asn Arg Leu Glu Leu Leu Tyr Pro
 1 5 10 15

Leu His Glu Leu Ala Lys Arg His Phe Leu Ser Pro Ser Pro Asn Pro
 20 25 30

Gln Asn Pro Asn Phe Lys Phe Phe Ser Arg Lys Pro Tyr Gln Lys Lys
 35 40 45

Cys Arg Asn Gly Tyr Ile Gly Val Ser Ser Asn Gln Leu Leu Asp Leu
 50 55 60

Val Pro Glu Ile Lys Lys Glu His Leu Glu Phe Asp Leu Pro Leu Tyr
 65 70 75 80

Asp Pro Ser Lys Ala Leu Thr Leu Asp Leu Ala Val Val Gly Gly Gly
 85 90 95

Pro Leu Ala Arg Ser Cys Ser Thr Ser Leu Gly Gly Leu Ser Val
 100 105 110

Val Ser Ile Asp Pro Asn Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly

115	120	125	
Val Trp Val Asp Glu Phe Glu Asp Met Asp Leu Leu Asp Cys Leu Asp			
130	135	140	
Ala Thr Trp Ser Gly Ala Ile Val Tyr Val Asp Asp Arg Ser Thr Lys			
145	150	155	160
Asn Leu Ser Arg Pro Tyr Ala Arg Val Asn Arg Lys Asn Leu Lys Ser			
165	170	175	
Lys Met Met Lys Lys Cys Val Ser Asn Gly Val Arg Phe His Gln Ala			
180	185	190	
Thr Val Val Lys Ala Met His Glu Glu Glu Lys Ser Tyr Leu Ile Cys			
195	200	205	
Ser Asp Gly Val Thr Ile Asp Ala Arg Val Val Leu Asp Ala Thr Gly			
210	215	220	
Phe Ser Arg Cys Leu Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr			
225	230	235	240
Gln Val Ala Tyr Gly Ile Leu Ala Glu Val Glu Glu His Pro Phe Asp			
245	250	255	
Val Asp Lys Met Val Phe Met Asp Trp Arg Asp Ser His Leu Asn Gly			
260	265	270	
Lys Ala Glu Leu Asn Glu Arg Asn Ala Lys Ile Pro Thr Phe Leu Tyr			
275	280	285	
Ala Met Pro Phe Ser Ser Asn Arg Ile Phe Leu Glu Glu Thr Ser Leu			
290	295	300	
Val Ala Arg Pro Gly Leu Lys Met Glu Asp Ile Gln Glu Arg Met Val			
305	310	315	320
Ala Arg Leu Asn His Leu Gly Ile Arg Ile Lys Ser Ile Glu Glu Asp			
325	330	335	
Glu Arg Cys Val Ile Pro Met Gly Gly Pro Leu Pro Val Ile Pro Gln			
340	345	350	
Arg Val Val Gly Ile Gly Gly Thr Ala Gly Met Val His Pro Ser Thr			
355	360	365	
Gly Tyr Met Val Ala Arg Thr Leu Ala Ala Pro Ile Val Ala Asn			
370	375	380	
Ser Ile Val Gln Tyr Leu Val Ser Asp Ser Gly Leu Ser Gly Asn Asp			
385	390	395	400
Leu Ser Ala Asp Val Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Arg			
405	410	415	
Gln Arg Glu Phe Phe Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp			
420	425	430	
Leu Glu Gly Thr Arg Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro			
435	440	445	

Arg Tyr Trp His Gly Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu
450 455 460

Val Pro Phe Gly Leu Ser Leu Phe Ser His Ala Ser Asn Thr Cys Lys
465 470 475 480

Leu Glu Ile Met Ala Lys Gly Thr Leu Pro Leu Val Asn Met Ile Asn
485 490 495

Asn Leu Val Gln Asp Arg Asp
500